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CONTINUATION

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CONTENTS.

ORIGINAL COMMUNICATIONS.

On the Forces called Vital, by Prof. J. L. Teed, M. D.....	319
A Case of Inspissated Cerumen with partial Absorption of the Walls of the Bony Meatus. *By H. N. Spencer, M. D.....	326
A Case of Puerperal Convulsions relieved by hypodermic injection of Morphine. By J. P. Dimmitt, M. D.....	329
Retinitis Albuminurica, as distinguished from Uræmic Amaurosis. By Chas. S. Bull, M. D.....	330
Inhalation of Ammonia as an Antidote to Snake Poison. By Dr. Wm. Keith.....	337

SELECTIONS.

PRACTICAL MEDICINE.

Sulphate of Atropin in cases of profuse sweating, especially the Night-sweats of Phthisis (Original Translation).....	341
Hydrate of Chloral in Incontinence of Urine (Original Translation).....	343
Resuscitation from Death by Chloroform.....	344
Treatment of Acute Articular Rheumatism in Bellevue Hospital, New York.....	348
Notes on Solution of Iodoform.....	350
On the Use of Quicksilver in Obstruction of the Bowels, (original translation).....	351
Medical Electricity.....	351

SURGERY.

Bloodless Amputations. Prof. Billroth.....	353
--	-----

EDITORIAL.

A New Medical College,—"so called".....	357
---	-----

REVIEWS.

Bloxam's Chemistry.....	358
Hamilton's Clinical Electro-Therapeutics.....	359
Kirkes' Hand-book of Physiology.....	359
Dalby on Diseases of the Ear.....	360
Fenwick's Guide to Medical Diagnosis.....	361
Sturges' Clinical Medicine.....	362

MISCELLANY.

Miscellany.....	363
-----------------	-----

BOOKS RECEIVED.

Books and other Publications received.....	366
--	-----

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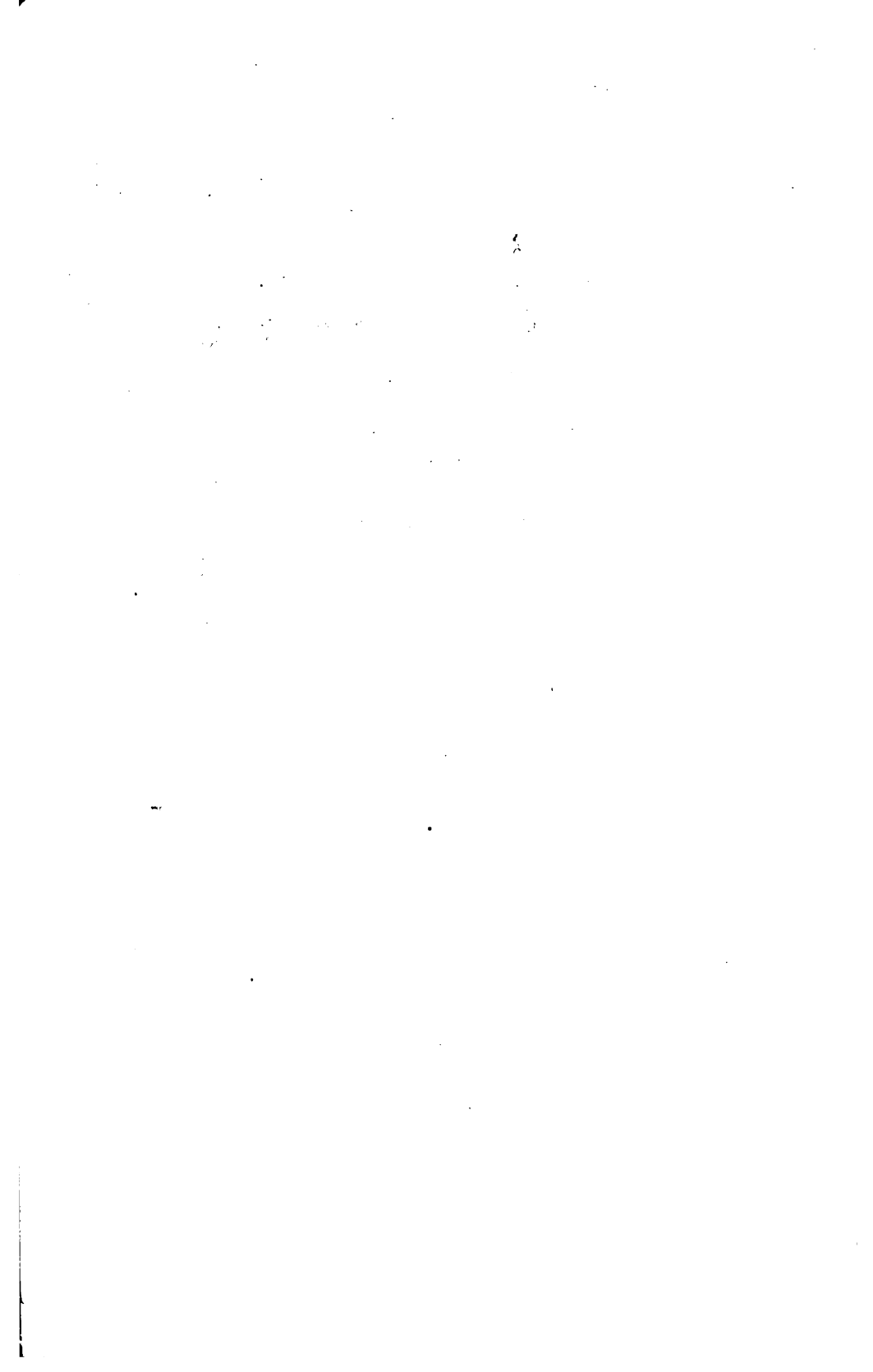
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LIST OF ORIGINAL CONTRIBUTORS TO THIS VOLUME.

	PAGES.
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PHILIP HUMPERT, M. D., Kansas City,-----	7
J. T. WILSON, M. D., Weston, Mo.,-----	65
BENJ. WOODWARD, M. D., Wyandotte, Kas.,-----	70
J. G. MILLER, M. D., Atchison, Kas.,-----	72, 211
Prof. J. L. TEED, M. D., Kansas City,-----	133, 319
A. W. REESE, M. D., Warrensburg, Mo.,-----	138, 282
E. W. SCHAUFFLER, M. D., Kansas City,-----	140
F. M. JOHNSON, M. D., Platte City, Mo.,-----	147
CHAS. S. BULL, M. D., St. Louis,-----	199, 330
I. B. WOODSON, M. D., Kansas City,-----	209
GASTON BOYD, M. D., Newton, Kas.,-----	214
Prof. GEO. HALLEY, M. D., Kansas City,-----	57
T. CURTIS SMITH, M. D., Middleport, Ohio,-----	263
A. L. CHAPMAN, M. D., Kansas City,-----	268
Drs. WM. & J. F. KEITH, Sturgeon. Mo.,-----	275, 337
H. N. SPENCER, M. D., St. Louis,-----	326
J. P. DIMMITT, M. D., Clinton, Mo.,-----	329



INDEX.

A

	Pages.
Abdomen, Remarkable recovery from gunshot wound in, by Gaston Boyd, M. D.	214
Abdominal Complications of Migraine	89
Abscess of the Bladder and of the Perineum, by F. M. Johnson, M. D.	147
Address of H. M. Holden, Esq.	110
“ of Prof. J. L. Teed	116
Air, Compressed	163
“ On the Disinfection of	26
Ammonia by inhalation as an antidote to Snake Poison, by Dr. Wm. Keith	387
Amputation of the Legs, Synchronous double, by A. W. Reese, M. D.	282
“ Bloodless	353
Amaurosis, Uræmie, distinguished from Retinitis Albuminurica	330
Anæsthesia, Local, a new method of producing	254
Anus and Rectum, Artificial dilatation of	247
Arsenic as a Prophylactic in Rabies	33
Atropia, Hypodermic Injection of in Cholera	334
“ in cases of profuse sweating, especially the Night Sweats of Phthisis	341

B

Beef Tea	312
Bed-sores and Indolent Ulcers, Galvanic Treatment of	38
Bladder, Abscess of	147
Bloodless Amputations	353

C

Cancrum Oris successfully treated with a saturated solution of Iodine, by J. G. Miller, M. D.	211
Carbolic Acid as a dressing in Wounds, by J. T. Wilson, M. D.	65
“ “ Diphtheria treated with	285
Caries of the Frontal Bone, Operation and Recovery, by Ph. Humpert, M. D.	7
Cerebro-Spinal Meningitis, Meningeal Fever, or	135
Chloral, Contra-indications to its use	18
“ in Incontinence of Urine	343
Chlorate of Potash and Glycerine Injections in Dysentery	289
Chloroform, Resuscitation from death by	244
Children, Lecture on the Clinical Examination of, by D. N. Kinsman, M. D.	1
“ Diseases of the Digestive Organs in	204

INDEX.

	Pages.
Cholera, Epidemic in South America.....	216
“ Opium and the Actual Caution in the treatment of.....	226
“ A certain sign for the recognition of.....	227
“ Sulphuric Acid as a Prophylactic in.....	229
“ Hypodermic Atropia in.....	234
“ Papers on.....	256
“ What is, by A. L. Chapman, M. D.....	268
Cincho-Quinine, What is.....	244
Cod Liver Oil, a new mode of administering.....	313
Cod Liver Oil and Lacto-Phosphate of Lime.....	242
Compressed Air.....	163
Commencement Exercises of Kansas City College of Physicians and Surgeons..	109
Congestive Malarial Fever.....	234
Comminuted Fracture of Leg, Resection, Suture.....	34
Croup, Inhalations of Lactic Acid in, by E. W. Schauffler, M. D.....	140
“ Tracheotomy in a case of.....	168
Cystitis, by I. B. Woodson, M. D.....	209

D

Difficult Obstetrical Case, by A. W. Reese, M. D.....	138
Diphtheria.....	288
“ treated with Carbolic Acid.....	285
Digitalis, Action of upon Circulation.....	159
Disinfection of Air.....	26
Diseases of the Digestive Organs in Children, by D. N. Kinsman, M. D.....	204
Dyspepsia, New Mode of treating.....	308
Dysentery, Chlorate of Potash and Glycerine Injections in.....	289
Dysmenorrhœa.....	94

E

Electricity, Medical.....	351
Erysipelas, The treatment of.....	76

F

Facial Paralysis treated by a New Method.....	172
Forces called Vital, On the, by Prof. J. L. Teed, M. D.....	319

G

Galvanic Treatment of Bed-sores and Indolent Ulcers.....	88
Gunshot Wound in the Abdomen, Remarkable Recovery from.....	214

H

Hæmorrhage, Post-Partum.....	275
“ from the Bowels in Typhoid Fever under Cold Water Treatment..	19
Hydrate of Chloral in Incontinence of Urine.....	343
Hypodermic Atropia in Cholera.....	334
“ Injections	25
“ “ of Morphine in Puerperal Convulsions.....	329

I

Inspissated Cerumen, with partial absorption of the walls of the bony meatus, by H. N. Spencer, M. D.....	326
Iodine in Cancerum Oris.....	211
Iodoform in Diseases of the Throat and Nares.....	299
“ Notes on a solution of.....	350
Intestinal Obstruction, Quicksilver in.....	351

INDEX.

L

	Pages.
Labor, On the use of Opium in	263
Lactic Acid in Croup.....	140
Lecture on the Clinical Examination of Children, by D. N. Kinsman, M. D....	1

M

Malarial Fever, Malarial Hematuria and Yellow Fever.....	11
Mammary Abscess.....	294
Mammary Gland, Inflammation of	56
Mania, Puerperal	40 102
Meningeal Fever, or Epidemic Cerebro-Spinal Meningitis, by Prof. J. L. Teed...	133
Meetings of Societies.....	183
Meeting of Missouri State Medical Association.....	59 185
Medical College,—“so-called”.....	357
Miscellany.....	63, 130, 197, 261, 363
Migraine.....	84
“ Abdominal Complications of.....	89

N

Nævi Cured	313
Nervous Diseases, Phosphorus in	152
New Mode of Treating Functional Dyspepsia Anæmia, and Chlorosis.....	308
Night Sweats, Oxide of Zinc for	246
“ “ Atropia for the cure of.....	341

O

Obstetrical Case, A difficult.....	138
Operations for Vesico-Vaginal Fistula, by J. G. Miller, M. D.....	72
Opium in Labor, by T. Curtis Smith, M. D.....	263
Oysters and their peculiar Digestive property	311

P

Paralysis, Premonitions of, by B. Woodward, M. D.....	70
“ Facial, a new method of treating.....	172
Pepsin, Notes on.....	239
Placenta Prævia, and Post-Partum Hemorrhage, by Drs. Wm. and J. F. Keith..	275
Phosphorus in Skin Diseases.....	36
“ The value of, in certain Nervous Diseases.....	152
Phytolacca Decandra in Inflammation of the Mammary Gland.....	56
Plaster of Paris Splints, by G. Halley, M. D.....	57
Proceedings of Missouri State Medical Association.....	185
Puerperal Mania.....	40 102
“ Convulsions relieved by Hypodermic Injection of Morphine, by J. P. Dimmitt, M. D.....	329
Pyæmia.....	53

R

Rabies, Arsenic as a Prophylactic in.....	33
Resection and Suture in Comminuted Fracture of Leg.....	34
Retinitis Albuminurica as distinguished from Uræmic Amaurosis, by Chas. S. Bull, M. D.....	330

INDEX.

	Pages.
Resuscitation from death by Chloroform.....	344
Rheumatism, Treatment of in Bellevue Hospital.....	348
Review of Frey on the Microscope, by the Editor.....	60
“ “ Hewitt on Diseases of Women, by Prof. S. S. Todd.....	61
“ “ Delafield on Post Mortem Examinations, by Prof. J. L. Teed.....	62
“ “ Loomis on Physical Diagnosis, by Prof. G. Halley.....	62
“ “ Galloway's Manual of Qualitative Analysis, by Prof. J. L. Teed.....	62
“ “ Lewin on Subcutaneous Injections in Syphilis, by the Editor.....	126
“ “ Atthill on Diseases of Women, by Prof. S. S. Todd.....	127
“ “ Aitkens' Practice of Medicine, by Prof. T. B. Lester.....	128
“ “ Byford on Obstetrics, by Prof. S. S. Todd.....	196
“ “ Allingham on Diseases of the Rectum, by the Editor.....	257
“ “ Wells on Diseases of the Ovaries, by the Editor.....	259
“ “ McClelland's Civil Malpractice, by the Editor.....	314
“ “ Norris' Contributions to Practical Surgery, by the Editor.....	315
“ “ Ecker on the Cerebral Convolutions in man, by Prof. J. L. Teed.....	316
“ “ Hammond on Insanity in its Relations to Crime, by Prof. J. L. Teed.....	317
“ “ Walton's Mineral Springs of the United States and Canada, by Editor.....	317
“ “ Bloxam's Chemistry, Inorganic and Organic, by Dr. Joseph Sharp... ..	358
“ “ Hamilton's Clinical Electro Therapeutics, by Prof. J. L. Teed.....	359
“ “ Kirkes' Handbook of Physiology, by the Editor.....	359
“ “ Dalby on Diseases and Injuries of the Ear, by the Editor.....	360
“ “ Fenwick's Guide to Clinical Diagnosis, by the Editor.....	361
“ “ Sturges' Introduction to the study of Clinical Medicine, by Editor..	362

S

Scleritis and Episcleritis, by Chas. S. Bull, M. D.....	199
Scarlet Fever and Syphilis.....	23
Septicæmia, Researches upon some questions relative to.....	175
Skin Diseases, Phosphorus in.....	36
Sore Nipples and Mammary Abscess.....	294
Small Pox, Successful Treatment of.....	79
Spleen, The action of Cold Water on the.....	243
Sulphuric Acid as a Prophylactic in Cholera.....	229
Synchronous Double Amputation of the Legs.....	282
Syphilis, Scarlet Fever and.....	23

T

Temperature, Fall of, in Great Wounds by Fire-arms.....	38
Tracheotomy in a Case of Membranous Croup.—Recovery.....	168

V

Vesico-Vaginal Fistula, Operations for.....	72
Vital, On the Forces called.....	319

W

Wounds by Fire-arms, Fall of Temperature in.....	38
--	----

Y

Yellow Fever, Malarial Fever and Malarial Hematuria.....	11
--	----

Z

Zinc, Oxide of, for Night Sweats.....	246
---------------------------------------	-----

THE KANSAS CITY

MEDICAL JOURNAL.

DECEMBER, 1873.

On the Forces called Vital.

By Prof. J. L. TRED, M. D.

The forces of the inorganic world, Light, Heat, Electricity, Attraction, Motion, &c., &c., are mutually convertible into one another, and are all considered as various manifestations of one unity, viz., of "Force," taken in the abstract. Force is variously combined with matter throughout the whole inorganic world, and under variations of this combination we find one substance fluid; another solid but amorphous; another solid and crystalline. It is a legitimate conclusion that the same amount of force is not combined with the same amounts of matter and in the same way in these different conditions; and it may be further concluded that, allowing a certain amount of force to be combined with a binary combination of matter in each case, a less amount of force is so combined when the result is fluid than when it is solid, and less when amorphous than when it has assumed the crystalline form.

It may also be assumed without violence, that the amount of Force combined with matter bears an increasing ratio, according as the elements of matter forming the compound increase in number, whether by additions of the same elements, or by additions of fresh elements; thus let $1\text{ H} \times 1\text{ O}$ be a binary

compound, it will contain less Force than $1\text{ H} \times 2\text{ O}$, or than the compound $1\text{ C} \times 1\text{ H} \times 1\text{ O}$: and farther, that the force under which matter assumes the solid form is the force under which it formed a fluid raised to a higher tension, the temperature remaining the same; and that the same force is raised to a still higher tension when the solid assumes a crystalline form.

Thus the forces around us in the inorganic world show modes and forms of development according to the mode and form of their union with the various elements of matter; and when we enter the organic world we meet fresh manifestations of force, fresh arrangements of matter, and fresh combinations of force with matter.

No answer has ever been given to the primary question, What is Life? and until that has been satisfactorily settled, experiments on Spontaneous Generation or abiogenesis, or on the Beginnings of Life, will not prove anything. Two parties hold, the one that Life is a higher form of force *sui generis*; the other that it is merely ordinary force raised to a state of higher tension.

Those who consider Life or "Vital" Force to be a distinct and higher form of force, a new force, have to suppose that this force goes somewhere on the death of the animal or plant with which it was combined during its life, while the material changes which then ensue are the result of the ordinary forces, vital force being withdrawn. The amount of the vital force in the embryo or the fœtus must be equal to the amount of vital force in the future adult, and the vital force in the next generation must be derived from the original source of vital force, not from its parents—for else in a few generations the amount of vital force would be so lessened in each individual that the race would die out, while vital force, if derived from the food, could not be increased unless the food were digested *alive*; because at death the vital force would leave the matter with which it was combined.

The supposition of a distinct vital force is derived from the metaphysical idea of the life and the mind and the soul being one and the same thing—the life here, and the life hereafter have been so commingled, that neither could be considered separately, the one from the other—while the similitude of terms has caused a confusion of ideas.

Let us follow the forward history of an acorn. In it, "vital" force is combined with the elements of matter of which the seed is composed, and according to the amount and complex arrangement of those elements, may it be assumed, is the amount of Force combined with it. The seed is put into the ground, it grows, becomes a tree, and produces many seeds each one like itself, and continues to do the same year after year. How has the "vital" force in the acorn been so multiplied as to produce a bushel of acorns every year, and how has it been so enlarged and increased as to "vitalize" the sturdy oak from the insignificant acorn? The force like the matter of the acorn has been increased and multiplied by converting other force and other matter into its own force and its own matter. The forces which held together the elements of the humus and carbonic acid on which it fed, having been set at liberty by the partial resolution of that humus and carbonic acid into its primary elements, and its partial reduction to simpler forms of combination, have been appropriated along with some of these simpler forms of matter, and have thus gone to make up the body, and the limbs, and the fruit of the tree.

In the same way the force, which was formed (?) when the Sperm cell entered into and united with the Germ cell,—a force which by its after behavior shows itself to be very different from either that in the sperm cell, or that in the germ cell,—increases and grows by the appropriation of the force contained in its food, in the same way as the matter of the impregnated ovum increases and grows by the appropriation of the matter contained in its food.

Directly after impregnation the ovum is an individual living being, subsisting on the food supplied to it; as it grows in size, its force increases, and not only in quantity, but also in tension or power; for the force under which the primary cells differentiate, and so form the various tissues is of a higher power or tension than that manifested while all the new cells formed were of the same kind—at all events part of the force in the ovum must be so raised, unless we suppose the amount and tension of force to decrease, as fresh tissues are formed—which would involve the absurdity that the Life force of the just

impregnated ovum is greater than that of the fully developed adult. This Growth and Evolution (?) of Force continues, and the foetus becomes the Infant. When born, this is still in a rudimentary condition in many respects; its brain is not yet formed, as it will be in the course of years; for there is but slight resemblance between the convoluted surface of an infant's brain and that of an adult; it is not only a *smaller*, but a *different* brain; the extent and diversity of the convolutions are different, and the depth of gray matter is also different. The growth of the infant, like the growth of the embryo, takes place by the appropriation of the matter and the force contained in the food, and the making them its own, and thus the "Vital" force of the animal, like the life force of the plant, may be considered as "Force" raised to a higher tension.

We find the combinations of matter in the vegetable and in the animal kingdoms in many respects very similar. Albumen, Fibrin, Casein, Hydro carbons, and Carbo-hydrates equally abound in each; so that it may be assumed that the amount and kind of force entering into these combinations is the same in both; that is that the albumen etc. of the vegetable kingdom is composed of the same matter and the same force, combined in the same way, as the albumen etc. of the animal kingdom.

Carrying the idea still further we may assume that when we find different material combinations, the combined forces are also different; and that their tension is proportioned to the complex arrangement of the matter; granting this, it will follow that the Life-force of plants differs from the force combined with inorganic matter, being in a state of higher tension; that in animals it is in a state of higher tension than in vegetables; and that it is in different states of tension in the animal itself, being in a state of higher tension in some tissues than it is in others.

The matter of which the nervous system is composed, constitutes the most important material difference among things possessed of life. Having no analogue in the vegetable world, it is a form of animal matter *sui generis*, the Force combined with it is also *sui generis*, and its functions are *sui generis*. It differs from and bears peculiar relations to the force manifested by the other parts of the body, directing and controlling it. An

anencephalous infant has lived for a short time; from the time of its conception it lived and grew as any other foetus would live and grow; but after birth, not having that form of Force, which that form of matter only could hold in combination, and this force being absolutely essential to its existence, the functions of life soon ceased to be performed.

The nervous system itself and its combined force is a thing of growth; at first being contained *in posse* in the primary cells of the embryo. The question very naturally arises can the less contain the greater? can the force combined with the matter of the embryonic cell be itself raised to a higher and at the same time a different kind, by appropriating additional force of the same kind as itself? Increase in quantity there may be, but not increase in kind, although there may be variations, corresponding to the many differentiations in the matter with which the force is combined in the formation of the various tissues and organs. It may be concluded therefore, that, although Nerve Force is the highest known form of manifestation of Life-force, yet it cannot be of a higher degree or kind than is that Life-force from which it is derived. After birth the nerve centers grow by drawing matter from the blood stream and with this matter they receive force—nor can they at any time give forth force of a higher degree or kind than that they themselves possess—their life-force and their matter are derived from the food, this therefore is the highest kind of force the nerve cells can possess, and the highest kind they can supply.

The great characteristic of this combination of force with matter, is mobility; that is facility of disintegration and liberation of combined force, for of all the tissues nerve tissue is the most unstable. After death it is the first to decay. The Axis cylinder of the nerve fibre changes at death from a fluid to a solid form—undergoing a species of coagulation; while the vesicular matter appears to undergo a change in a different direction, becoming softer. During life nerve force is never “static;” waking or sleeping it ever remains active, mobile, and if it ceases to flow, the body dies, while variations in its character and direction are the cause of many forms of disease—both of the ordinary kinds of diseases and of those so-called mental.

Another striking peculiarity in regard to Nerve Tissue is the nature of its function. The other viscera are engaged in producing metamorphoses in matter. The functions of the liver, the kidneys, the intestines, the lungs, all end in material objects—bile, urea, carbonic acid, etc—the heart's function is to move matter, and so also is that of the muscles, while the waste of these tissues and the residue of their nutrition gives occupation to the excreting organs. In the brain, however, all tissue metamorphosis and the mutations of matter are completely lost sight of in contemplating its functions—we never think of the cholesterin, etc., that is there formed—and this is absolutely correct, for as far as the consideration of the functions of the brain is concerned, the changes in matter are entirely of no consequence. Yet the dynamic function of the brain is only effected by the metamorphosis of brain-matter and the consequent liberation of a large portion of the force that was locked up in it and deposited with it, and formed part of it—for the force combined with the matter is as much a part of the compound, as is the matter itself—nor can it be lessened and the compound remain. Unlike any other organ in the body, the function of nerve tissue is dynamic, without any material object.

What is the function of Nerve Force? It is that form of force which, in proportion to its development, presides over the other manifestations of Life in those animals that possess a nervous system, and it is manifested in three modes or directions. In an article on "Irritation" in the first number of the first volume of this *Journal*, these modes were stated as follows, "First, Sensation; *a.*, special *b.*, general; Second, Motion; *a.*, voluntary, *b.*, involuntary; Third, Co-ordination of the other elements of tissue; *a.*, the vascular element, *b.*, the cell element."

As regards the question raised in that article, viz: the pathological relations of the state known as irritation, that division is carried far enough; but the power of co-ordination may be considered as a form of "motion;" and the third mode of manifestation of nerve force will be psychical manifestation—and the three modes of manifestation of nerve force will be First, Sensation; Second, Ideation;* Third, Motion.

*Ideation includes Perception, Judgement and Volition.

We thus find that our line of argument has excluded the question of mind in animals and in men. We have reduced the expression of nervous disease to its simplest form; and disorders of Sensation—disorders of Ideation—disorders of Motion—will include every form of nervous disorder hitherto known. Insanity becomes immediately a disease that can be understood and investigated; it is also a disordered manifestation or mode of nerve force; and the structural disorder that corresponds to it has to be searched for. Disordered motion and disordered sensation admit of similar explanation—while as the nerve force is the highest form of life force, the occurrence of other forms of disease of matter and of force as seen in Scrofula, or other organic disease when alternating with Insanity, is readily understood.

Like as the body will never increase in weight or grow, on food that it cannot digest, so the mind will never increase in knowledge and reasoning power, by considering questions that it cannot comprehend.

The abstract idea of Mind, carrying with it an imaginary personification of the other "ego," has, by considering how it was united with the first "ego," the body, never advanced the study of mental diseases one solitary step—for the whole question was a mystery from the beginning, and the mystery can never be cleared up. But if we consider Insanity as disordered nerve force, manifesting itself psychically, we can at once understand how it may be combined with, or may alternate with other forms of disordered nerve force, that is with disordered sensation, and disordered motion; and we can understand how in some forms of its manifestation there may be increased tissue metamorphosis in the vesicular neurine; how in other cases there may be in this deficient tissue metamorphosis; and how in a third case there may be cell degeneration taking place therein, and we may hope to be able finally to trace the connection between symptoms and morbid states by a continued series of microscopical investigations.

The action of remedies and of food also come within reach of our comprehension; and we gradually find, *mutatis mutandis*, that disorders of the Nervous System are subject to the same general laws that govern in disorders of the rest of the body,

modified by the peculiar laws governing the nervous system—just as is the case with the disorders of any other tissue or part of the body.

A Case of Inspissated Cerumen ; with Partial Absorption of the Bony Walls of the Meatus.

By H. N. SPENCER, M. D., Saint Louis.

February 20, 1873, Miss M., age 22 years, applied to me presenting these manifestations of Aural disease; she had for some years past been troubled with tinnitus and had been subject to attacks of giddiness; frequently she would have very severe pain referring to the ears and with a distressing feeling of fullness, which symptoms had been much aggravated of late, and her hearing, always affected, now seriously inconvenienced her in every intercourse of life.

The ears had never been examined. She had been treated for her giddiness, and to relieve her pain had poured warm oil into the ears, acting upon the advice of friends.

An examination revealed inspissated cerumen in both ears.

Hearing distance. Right—*pressed*—120—(i. e. the watch heard on pressure which should be heard by the healthy ear 120 inches, this being the value of my watch). Left 1—120. Tuning fork heard better on right side (confirming the watch test, i. e. that the greatest obstruction is on the right side, obstruction alike to the entrance of sounds and the escape of sounds conveyed by the bones to the labyrinth, and this result of the tuning fork test is of further value as indicating that the nerve is free).

I commenced at once to undertake the removal of the ceruminous masses, using the syringe, but found the cerumen so hard and the ear so tender to the slightest touch that I discharged her for the nonce, giving her a solution of the bicarb. of soda as a solvent, and instructing her to come again to my office the next morning. The next morning I found no change in the condition of the masses which filled her ears, though she

had made her applications faithfully according to instructions. I again endeavored to relieve her by means of the syringe, using warm water, but failed to make any impression as before. The patient continued to come to my office daily for a week—then fearing lest so frequent effort might induce irritation that would act unfavorably upon the case, I intermitted a day and had her visits three times a week. By the persistent use of solvents and the syringe, I would be able to remove some little of the mass at every sitting. I endeavored by means of a dentists drill—which I am in the habit of using as a *porte cotton* for more efficient cleansing of the ear—and the forceps to loosen the mass from its adhesion to the meatus walls, doing this in the most careful manner possible, with all the gentleness that I could command and under full *illumination*. I had to use extreme care, for my patient was a lady who commanded my deepest sympathy—though in fair physical condition, she was extremely nervous and her ears as extremely sensitive. The mass, on the right side more especially, under the operation of the instruments seemed more like stone than of any other composition. The patient was hardly ever free from pain. She stated that the pain was not more under the effect of treatment than it had been previously.

On April 9th, just seven weeks from the time we commenced treatment, I was called early in the morning to attend Miss M. at her bedside. I went immediately, feeling great uneasiness, and found everything my solicitous fears had held up to my mind on the way. She had spent a night of agony—the right ear was swollen, involving the auricle. The meatus was entirely closed, covering over the mass in the bottom of the canal—it was out of sight, but not out of mind. There was redness and pain on pressure over the mastoid. I had six leeches applied; three anteriorly, about the tragus, and three posterior to the auricle over the process, and ordered warm fomentations to be used through the day. At 6 o'clock, p. m., I found her easier and ordered $\frac{1}{2}$ gr. of morphia, to be repeated if required.

April 10.—Had rested well part of the night, having taken but one dose of the morphia. The swelling very much reduced and but little pain. Pulse and skin good. There is an acute

pharyngitis, for which hot water was ordered to be used as a gargle. Patient has been comparatively free heretofore from any pharyngeal disease, considering she has resided all of her life in Saint Louis.

April 11.—Ear discharging profusely. "A dead dull pain," as the patient describes it, deep seated in the ear. No redness or swelling. Pain disappeared from region of the mastoid.

April 12.—Patient able to visit me again at my office. After a few more protracted sittings and by dint of patient work, I finally succeeded in removing the entire plug. I was greatly assisted by the issue of her acute otitis, which I regarded at the time with the deepest solicitude. The discharge had separated the mass from the posterior wall for its escape, and this afforded me a point to work at. When the meatus was now free, carefully cleansing it, I detected on the posterior wall of the bony meatus denuded bone, and exploring with the probe found the free border, which was seized with the forceps, and this spicula, which is herewith presented, came very readily away. The outer layer of the membrana tympani was in a suppurative condition and the membrane sunken. I applied solutio argenti nitrat. gr. 60 ad. ʒj., and used Politzer's method for restoring the normal plane of the membrane. After a week I discharged the patient, her ears feeling perfectly well and the hearing being—right, 80-120—left 100-120.

The plug from the left ear I had succeeded in extracting just prior to her acute otitis of April 9th.

I have been thus explicit in the narration of this case, for it is of peculiar interest, and the interest is enhanced by the rareness with which such cases occur. The structure of the plugs did not differ from that usually found except in their density, which was extreme, and which must be partially accounted for by the length of time they had remained in the ears: the patient stating that she does not remember ever hearing so well as at the present time. I may state here that there was no history of an acute or chronic, suppurative or non-suppurative inflammation of the *middle ear* at any previous time of her life. Another evidence of the great length of time the plugs must have been present, we find in the fact that they had so influenced the shape of the meati—which were abnormally large—

and even to inducing *partial absorption*, on one side, of the bony walls.

The giddiness to which she had been subject for many years (she has not experienced the feeling since, now six months) was produced by pressure on the labyrinth conveyed by the ossicles.

A Case of Puerperal Convulsions relieved by hypodermic injection of Morphine.

By J. P. DIMMITT, M. D., Clinton, Mo.

On the evening of Sept. 27th, I was called in consultation with Drs. Jennings and Britts, of this City, to see Mrs. L—, wife of one of our merchants, a lady of the age of 22 and of full habit. The history of the case, up to the time I saw her, as given me by Dr. J., is as follows: The Dr. was called to see patient early that morning, he found her in labour, she being a primipara. Nothing unusual occurred to impede the process of parturition which terminated at 10 A. M. of the same day. About an hour after delivery, patient had convulsions. The attending physician was recalled, and drew 18 ounces of blood and administered chloroform.

At 6 P. M. I saw her, and up to this time she had had nine or ten convulsions, others no doubt having been prevented by the inhalation of chloroform. I found the patient in a state of coma, pulse 130, breathing 12 per minute and stertorous, temperature of body 104° . I introduced a catheter and drew away near half a gallon of urine. We gave her *Oleum tigllii* gtt. ij followed in half an hour by Chloral Hydrate, gr xxx in Syrup.

10 P. M., had two more convulsions in close succession. Repeated the chloral and injected the bowels with salt and water which soon brought away a very copious, watery, involuntary stool, with a great quantity of gas.

12 M., Patient had another fearful convulsion from which I feared she never would rally. Having been left in charge of the case I now determined to try the hypodermic injection of Sulphate of Morphia, of which I administered $\frac{1}{4}$ gr. The effect of the narcotic was soon apparent, procuring about four hours rest, when another slight convulsion ensued. I at once repeated

the injection of Morphia $\frac{1}{4}$ gr and left patient in care of the nurse.

Sept. 28. 6 A. M. Patient had remained quiet with all the symptoms improved, to wit, pulse 120, breathing 12 and quiet, temperature of body 102° . Had two more evacuations from the bowels. Was semi-conscious when aroused. 4 P. M. Patient took nothing through the day having rested quietly under the influence of the Morphine. Pulse 120, temp., 101° took a little tea—thirst intense—wanted ice. Complained of sore tongue, (it was severely bitten,) and when told she had a baby, wanted to see it. [I will state here that she has no recollection whatever of even the commencement of her labour.] This case continued to recover without a seeming untoward symptom and without further medication excepting an occasional anodyne and aperient.

I have formerly been slow to use opiates in this class of cases, but, having witnessed the unmistakable good effects of the drug in this instance, I shall in the future be less hesitating in its use, especially in the epileptiform variety of convulsions, as I conceive this case to have been.

Retinitis Albuminurica as distinguished from Uræmic Amaurosis.

By CHARLES S. BULL, A. M., M. D., St. Louis.

It is a fact well known to the general practitioner, that patients suffering from chronic degenerative diseases of the kidneys, are frequently attacked by a peculiar form of blindness or amaurosis, which is sometimes transitory in its nature, but more frequently is of a permanent character.

It was believed, for a long while, that these two forms of amaurosis were symptoms of one and the same retinal disease, and it was not until the ophthalmoscope was brought into use as an adjuvant to clinical diagnosis, that it was found necessary to make a distinction between them. Heymann, of Dresden, was the first to describe, in 1856, the ophthalmoscopic appearances of a peculiar variety of inflammation of the retina, followed by or accompanied with fatty degeneration of that tissue, and associated with the various forms of the disease commonly

known as Bright's Disease. (*Archiv für Ophthalmologie*, IV. 2.)

He described the retina as studded at points with whitish-yellow spots, and a microscopical examination proved that these spots were deposits of fat globules, of irregular shape and size, and the ganglionic nerve cells were found in a state of fatty degeneration. In 1859 Liebreich described, particularly, the appearances now known to be characteristic of albuminuric retinitis, especially the envelopment of the optic papilla by a circle of swollen, degenerated retinal tissue of a white color, and a peculiar arrangement of groups of brilliant white spots in the region of the macula lutea, in the form of lines or streaks radiating from the centre of the macula. (*Archiv für Ophthalmologie*, V. 2.) There was at first a diversity of opinion as regards the exact layer of the retina in which this degeneration was situated, but the microscope has since proven that the degenerative process affects, primarily, the external and internal granule layers, as well as the connective tissue frame work, or Müllers fibres. (*Archiv für Ophthalmologie*, VI. 1, 2.) There is also a thickened or sclerosed condition of the optic nerve fibres. This condition of affairs we now know to occur most frequently in the fibrous or cirrhotic form of degeneration of the kidney, though it is occasionally met with in the amyloid and fatty forms, and also in the albuminuria of pregnancy.

Traube, of Berlin, ascribes the retinitis to hypertrophy of the left ventricle, and as a matter of experience, this is almost always present. Yet it would be an unwarrantable procedure to regard this as the exciting cause of the retinal inflammation, as it occurs in very many diseases without retinitis. It is more likely that in the delicate structure of the retina, there are nutritive changes, which, scarcely observable in other tissues, may here lead to serious impairment of function, and thus explain the phenomena. This view is apparently confirmed by the fact that derangement of other nervous functions is not unfrequently observed in the course of chronic Bright's Disease, and in one case on record, fatty degeneration of the ganglion cells and parenchyma of the corpora striata was found.

In a large proportion of cases where the retina becomes

affected, uraemic poisoning soon occurs, while in others, this form of retinitis appears after the occurrence of the uraemic symptoms. Landouzy thinks that albuminuric retinitis is often an initial symptom of Bright's disease; but this is denied by Von Graefe, who refers to the condition of the kidneys found associated with this form of retinitis, as indicating a long pre-existing state of disease. In three cases Von Graefe observed the white spots in the retina completely disappear with recovery of function, which he explains by the fact that the connective tissue frame-work of the retina is the chief seat of the fatty degeneration. Liebreich has also observed almost complete resolution.

Landouzy in a very interesting article (*De la co-existence de l'amaurose et de la néphrite albumineuse*, *Annales d'Oculistique*, XXII, Sept. and Oct., 1849), expresses himself as follows:

1st. As Claude Bernard has established a relation between the presence of sugar in the urine and lesion of the fourth ventricle of the brain, can we not imagine the existence of an analogous relation between the presence of albumen in the urine and lesion of a definite, fixed part of the brain?

2d. The amaurosis follows exactly the course of the nephritis.

3d. Therefore the most energetic antiphlogistic treatment should be insisted upon, as general venesection, large blisters, purgatives, diuretics, etc. [This we now know to be very bad therapeutics.]

4th. The eyes are apparently healthy externally, though the pupils may be widely dilated and but slightly contractile.

5th. The visual disturbance is in all cases identical, that is, it always appears in an insidious manner, develops gradually, and in no case leads to total blindness.

6th. The greater the dilatation of the pupil, the more obscure the vision: with this exception there is no noticeable disturbance in the visual apparatus.

7th. As amaurosis in diabetes has only been noticed by comparatively few observers, and at a period when the nature of albuminuria was but little understood, is it not possible that in those cases the amaurosis rather depended on the presence of albuminuria than on that of sugar?

8th. It is still within the bounds of possibility that there will be found a circumscribed lesion of the brain, or an infiltration, or the commencement of a fatty degeneration of the optic nerves, to account for the symptoms.

9th. Because the autopsy does not reveal any lesion in the eye, optic nerves or brain, this does not prove its non-existence. All vital affections must have an organic origin.

Of course these statements all refer, as we now know, solely to that form of uraemic amaurosis which shows no retinal lesion demonstrated by the ophthalmoscope. Landouzy draws the following conclusions from his investigations: 1st. The affection of vision is an almost constant symptom of albuminous nephritis. 2d. It is the initial symptom of the disease. 3d. It disappears and returns simultaneously with the presence of albumen in the urine. 4th. The main trouble is due to an alteration of the ganglionic nervous system. On the other hand, Forget does not come exactly to the same conclusions as Landouzy, though agreeing with him in some points.

In a paper entitled "*Recherches cliniques sur l'amaurose comme symptome de l'albuminurie*" (*Annales d'Oculistique*, XXII, Nov. and Dec., 1849), he states as follows: 1st. The pupils are widely dilated and but slightly contractile. 2d. Albuminuria and anasarca precede the amaurosis. 3d. Amaurosis is almost a constant symptom of albuminuria. 4th. The concentric hypertrophy of the heart must be regarded as a complication of the renal trouble and not as a primary cause. 5th. The amaurosis is not always the initial symptom of nephritis. 6th. The amaurosis does not disappear and return simultaneously with the albumen in the urine.

We now know that there are two forms of amblyopia occurring in the course of kidney disease, which must be carefully distinguished from each other. The one is sudden in its onset, rapid in its progress, and is termed uraemic amblyopia. It occurs in acute renal affections and during the earlier stages of the chronic form, particularly in cases associated with pregnancy. It is characterized by sudden and often complete amaurosis, generally of a temporary nature, and is unattended by any change in the retina demonstrable by the ophthalmoscope. It is probable that this form of amaurosis is associated

with structural changes in the brain similar to those which occur in the retina in cases of albuminuric retinitis, though no confirmatory observations have as yet been published. This uraemic amaurosis is comparatively rare. Von Graefe observed it in two out of thirty-two cases of impaired vision with albuminuria; Bader, in six out of thirty-eight cases. The amaurosis remains for a shorter or a longer period and then disappears. The attacks frequently recur, and the vision, though unaffected after recovery from the first attack, gradually fails when other nervous symptoms have been superadded. The amaurosis is always binocular, and clinically speaking, its occurrence simultaneously with albuminuric retinitis is rare.

The second form, though less sudden in its advent, is far more lasting in its effects. It is met with in all the varieties of chronic renal disease, and is to be regarded as an unfavorable symptom. This form of retinitis is one of the most interesting nerve lesions, because it is almost the only one susceptible of physiological examination. The dimness of vision is the first symptom and is generally the chief subject of complaint. The patients complain of a mist or a fog before the eyes, and occasionally suffer from photopsia, such as black specks and sparks of light. Schweigger of Berlin (*Archiv für Ophthalmologie* V. 2), calls attention to the constancy of a certain localization of the retinal changes, occurring only in Bright's disease. There is first a retinal hyperaemia, the veins are engorged and tortuous, sometimes distinct, more often concealed by the slightly cloudy retina. Then occur extravasations of blood, partly in the form of fine radiating streaks between the bundles of nerve fibres, partly in the form of larger oval or circular spots, rendering it very difficult to recognize the smaller vessels. The outline of the papilla now becomes indistinct, and there soon appear at various points of the fundus small white dots, and larger ovoid or circular, bright, white, elevated spots. These spots soon increase in number and size, and coalesce so as to surround the optic papilla like a wall. The last change is the occurrence of small ecchymoses or extravasations of blood into and upon this surrounding wall of infiltration.

This morbid process goes on in the inner layer of the retina anterior to the blood vessels. The beginning of the process to

the naked eye, corresponds to a capillary apoplexy of the brain or a punctate hemorrhage, and this view is corroborated by the microscope. There is also atheromatous degeneration of the vessels. Where the white spots occur, the retina is very much thickened, due to a fatty metamorphosis of the ganglion cells. But the changes are not confined to the larger ganglion cells, for the granule layers are also involved, showing that the elements of connective tissue of the retina are affected as well as the nerve elements. Some of the spots of exudation are surrounded by a distinct, delicate membrane, and have processes which are connected with one-another, thus proving K  lliker's statement of the anastomosis of the nerve cells. In their microscopic appearance these spots resemble the "corpora amylacea" but do not show the reaction of the latter with iodine and sulphuric acid. They are probably degenerated nuclei of the ganglion cells. The layer of rods and cones is generally preserved intact. In the neighborhood of the hemorrhage, the walls of the vessels are found very much thickened. In some cases true "corpora amylacea" are found between the fibres of the optic nerve.

The serous infiltration of the optic nerve itself is not directly connected with the renal or cardiac disease, but is simply due to pressure by the exudations upon the blood vessels, which causes the serous portions of the blood to exude. The changes found in the choroid coat consist in a sclerosis of the chorio-capillaris or vascular layer of the choroid. The marked vascularity of the optic disk is due to numerous newly-developed blood-vessels.

Nagel (*Archiv f  r Ophthalmologie*, VI, 1), thinks that the process consists not so much in a change in the elements of the retina as in the appearance of foreign products, among which fat plays an important part. Masses of fibrin, which were once fluid, were exuded from the walls of the blood-vessels and became coagulated, thus forming an inflammatory product. The granule cells first degenerate, while the degeneration of the nerve elements is, in the majority of cases, secondary, and is dependent on the changes in the intervening substance. The changes in the vessels and the circulation are so important as to raise the question whether disturbances in the circulation,

especially apoplectic hemorrhages, are not the necessary proviso for parenchymatous changes in the retina. If the fatty metamorphosis is no degeneration in the narrow sense of the word, but rather the result of the cell-forming process or an inflammation, then it might be questioned whether this process only occurs in Bright's disease, and in fact, it does not.

From all this we conclude, firstly, that this fatty metamorphosis of the retina is the result of a chronic parenchymatous retinitis. Secondly, that the structural changes are not confined to certain layers, but may involve all. Thirdly, it consists in a disturbance of the circulation, punctate hemorrhagic deposits of an amorphous fibrous exudation, and fatty metamorphosis of the intervening connective tissue. Fourthly, later on in the disease comes degeneration of the nerve elements, the ganglion cell layer and optic nerve fibres.

As regards the frequency of this form of retinitis as a complication of Bright's disease, Wagner found in one hundred and fifty-seven cases of renal trouble, eighteen cases of retinitis. In some cases there was little or no visual disturbance, but marked trouble in the retina.

As regards the therapeutics of retinitis albuminurica, we unfortunately cannot do much. Of course the treatment should be directed to the renal trouble. Yet I have seen some cases where the symptoms of kidney disease, being relieved by appropriate treatment, such as the administration of iron and quinine, and non-irritating diuretics, the vision also was improved, though no treatment whatever was directed to the eyes. In almost all cases the changes in the retina remain the same; the fatty metamorphosis remains unabsorbed, and there results a slow, progressive atrophy of the optic nerve. Yet even when there is no ophthalmoscopic change demonstrable in the retinal appearances, the vision may improve and reach the normal standard. There are some few cases on record where complete resolution has taken place and vision was restored to the normal standard, and the patients lived for years afterwards with scarcely any symptoms of disease of the kidneys. Yet we may rest assured that sooner or later, owing to some error in diet or imprudence of life, the primary disease will reassert itself, and in its train of symptoms, the diminution of vision will not be absent.

One interesting point which I have left unmentioned, is the influence of the uræmic poison, in its first stages, upon the field of vision. There seems to be no regularity or constancy in the manner in which the poison affects the visual field. Sometimes the field is narrowed concentrically in both eyes; sometimes there is hemiopia—the patient seeing only with one-half of his retina, the defect being symmetrical in the two eyes. This diminution, or narrowing of the vision is, at first, always transient, and is always recovered from; but later on in the course of the disease, there appears a more lasting defect, generally concentric in character, and capable of improvement as the renal disease becomes somewhat ameliorated in its symptoms by treatment, though it can never be made to disappear entirely. We know that this limitation of the field of vision is due to some interference in the conducting power of the optic nerve fibres, and is not due to the conducting power of the masses of exudation as such. At the periphery of the field of vision, where the diminution first occurs, the deposits are always very few in number and small in size, and sometimes do not exist at all. It is probably due to some central, intracranial lesion, the nature of which we do not yet understand, and the locality of which we have not yet discovered.

Inhalation of Ammonia as an Antidote to Snake Poison.

By DR. WM. KEITH, Sturgeon, Mo.

Ammonia is not a new remedy for snake poison, but I have never known it used by inhalation except by myself and son, (Jas. F. Keith). The mode of exhibiting Ammonia was fortuitously discovered by me in the following manner:

A young lady, Miss C., was bitten by a small prairie rattlesnake on the 23d Oct., 1870, and was attended by a physician for two days, giving Spirits and Morphine, with but little benefit. On the 25th, the case becoming extremely serious, I was sent for. On my arrival I found two other physicians doing all that was in their power, and had administered one dose of Bribou's antidote. We next decided on giving carbolic acid in ten drop doses, as recommended by Dr. J. W. Hood, of Melbourne,

Australia, but by this time the patient was unable to swallow, lying in a state of stupor verging on death. After a few ineffectual attempts to get her to swallow the medicine, the parents, thinking she was dying, requested us to let her alone and let her die in peace. Having prepared myself with several medicines considered antidotes, I had with me the aromatic spts. of ammonia, but as it could not be administered except by enema, or injection into the veins, and as the parents were opposed to having her disturbed, I concluded it might be beneficial by coming in contact with the blood in the air cells. I at once saturated a napkin with the spts. ammoniæ and placed it near her face on the pillow. To the astonishment and delight of all present, in less than half an hour she turned over, (her face being near an open window) and called for water and drank it with facility. From that time forward, she recovered steadily, with the continued use of the remedy, using a pint, or more, in four or five days, by inhalation alone. During the whole time she suffered greatly with the wound, which was on the side of the foot, the foot being much swollen and black. The shin around the part inflicted with the bite was as dead and dry as a piece of leather. Nothing now could be done for it, more than to treat it on ordinary surgical principles. Nothing was done at first, except applying some simple means, such as salt and tobacco, onion poultices and such like. Had the camphorated spirits of turpentine been applied freely to the wound and swollen parts, no sore would have followed. It must be done soon after the bite is inflicted.

Since the above case, myself and son have had two cases of snake-bite, both by the same kind of snake as the foregoing.

One a boy, ten or twelve years old, bitten last summer, on the foot. The other a little girl, near five years old, bitten on the hand while helping the mother to pick berries in the garden, on Sunday, the 3d of the present month. (August, 1873).

As both cases were treated alike, I will only give the history and treatment of the last.

As soon as the child was known to be bitten by a snake, a messenger was immediately dispatched to town for my son, J. F. Keith. On his arrival he found the child cold, its surface livid and spotted, notwithstanding whisky had been given. One

ligature had been applied, suction performed and various applications to the wound.

Aromatic spts. of ammonia was administered immediately, both by inhalation and in spirits, in half tea-spoonful doses every hour or so, the spirits being given more frequently. The beneficial effect was immediate. The pulse from ranging near 140 to the minute, was reduced to 112 and 115, the child becoming less restless and more rational. The hand and arm however, continued to swell and turned dark and livid, but this was soon relieved by the compound camphorated spirits of turpentine freely applied to the wound and tumid limb. The pain ceased and the color of the skin changed to a brighter red. The sickness at the stomach and retching were allayed by giving warm sweet milk occasionally, and warm milk from the cow was her diet mostly during her illness.

Whether the other means contributed to assist the cure by inhalation I cannot positively say, but it appeared to me that every case, and particularly the first one, must have ended fatally, but for the timely use of ammonia.

Notwithstanding the pleasing and satisfactory effects of the spirits of ammonia I am inclined to believe it is safer to associate other means with it.

Spirits pushed to gentle inebriation, to support the strength, morphine to relieve pain, the spts. of ammonia both internally and by inhalation, as an excitant, neutraliser or eliminator, whichever it may be regarded; and the liniment of turpentine to the wound and tumid surface, keeping it constantly moist; it relieves the pain, dissipates capillary congestion and thereby prevents mortification and sloughing, when used early. When I saw the first case it could do no good, the skin and subcutaneous cellular tissue were dead and dry; and when the slough was removed, the liniment was too acrid for the raw surface. In the other cases no mark or scar was to be seen except a small red spot where the fang had entered.

TO MAKE THE LINIMENT.

Fill a half gallon bottle nearly full of spts. turpentine, add gum camphor in fine particles as long as it will dissolve, then heat it gradually with nitric and sulphuric acids, by adding alternately 15 or 20 drops of each, stirring occasionally with a stick.

The acids must be added fast enough to keep up a bubbling and boiling, but not so fast as to run it over or break the bottle. Continue till it is of a dark red color, then add an ounce of acetate of lead and let it stand till cool, then pour it off in another vessel, keeping back the acids, debris, etc.

[NOTE.—While the above was in the printer's hands the following note reached the editor from Dr. Keith.]

DEAR SIR:—Since I sent you the communication on the treatment of snake poison by the inhalation of spirits of ammonia, I have found that cobra poison has been analysed and found to consist of carbon, 46 per cent.; nitrogen, 13; oxygen, $32\frac{1}{2}$; sulphur, $2\frac{1}{2}$, and the rest (6 per cent.), hydrogen; this is said to be exactly the composition of beer yeast, and supports the idea that the cobra poison is of the nature of an animal ferment, and anything that will counteract or destroy fermentation, will be a good antidote.

W. K.

SELECTIONS.

Practical Medicine.

Sulphate of Atropia in cases of Profuse Sweating, especially the Night-Sweats of Phthisis.

By Dr. FRAENTZEL, Physician to the Charité Hospital, Berlin. Translated for the Kansas City Medical Journal, by the Editor.

The *Philadelphia Medical Times*, No. 51, 1872, contains a notice by Dr. J. C. Wilson, of the employment of one-sixtieth of a grain of atropia daily in four cases of advanced phthisis, accompanied by profuse night-sweats, with the effect of completely controlling the latter.

Moved by this communication, the writer determined to repeat the experiment in those wards of the Charité and Augusta Hospitals that were under his charge.

The result of his experience in 75 carefully reported cases is decidedly favorable to the action of the drug in controlling the profuse sweating of phthisis, as well as that of acute articular rheumatism, or that occurring in the convalescence from trichinosis. The result is not infallible, nor is the cessation from sweating always absolute, but in the majority of cases the improvement is marked, so that the patients cease to feel exhausted and to lose flesh as rapidly as before.

Amongst the 75 cases observed were 15 of more or less recent cheesy pneumonia, all of which had fever and night-sweats; 48 cases of well-pronounced phthisis pulmonalis, of which 42 had fever; 8 of acute articular rheumatism with high fever; 2 of ulcerated endocarditis, and 2 of trichinosis. Of the first 15, six were completely relieved of the sweats, seven were much improved, two were unaffected. Of the 48 consumptives, five were not at all influenced, twenty-one were greatly relieved and twenty-two cured of the sweats. Some of the cases not benefited by the drug were very near the end of life at the time. Of the patients suffering with rheumatism, five were permanently relieved, two were improved, and one was not affected. Of the two cases of endo-carditis, one was relieved, the other not. The two patients convalescing from the trichina disease were at once and permanently relieved of their sweating.

In the first one of the eight cases of rheumatic poly-arthritis the result was reached with surprising promptness.

The patient, a man 32 years old, had been sick for five days; almost all the larger joints of the upper and lower extremities were attacked; the body was covered with sudamina; and at 10 o'clock, A. M., on the occasion of Dr. Fräntzel's visit to the ward, he was literally bathed in perspiration. One-sixtieth of a grain of atropine was administered at once. Fifteen minutes later a diminution in the sweating could be observed. Two hours later it had entirely ceased. At night, however, the sweat returned and lasted until the next forenoon, when it was again cut short by a similar dose of atropine. This dose was now repeated night and morning for some days, with no further return of the symptom, although the rheumatic fever did not yield for two weeks longer.

Another case is narrated of acute rheumatism of both knees and one elbow, in a man 51 years old, who had had several attacks of the same before, but was yet free from any cardiac complication. In his case, also, the sweating was profuse. One-sixtieth of a grain of atropine, once a day, was not sufficient to control it, and the dose was increased to one-thirtieth of a grain every evening, which proved effective. After two or three days the administration of the drug was stopped, when sweating recurred. This was done several times during his illness, always with the same result, showing conclusively enough, that the excessive action of the skin was indeed controlled by the atropine.

The same thing was observed eight times in cases of consumptives, viz: that sweating returned on stopping the atropine, to be checked again on a resumption of the drug. Patients were made quite happy at being relieved of the night-sweats, and were very unwilling to give up the use of the remedy, even for a day.

The sulphate of atropia was usually given in pill form, made up with extract of gentian. The dose ranged from the one-sixtieth to the one-thirtieth of a grain, although when it was proposed to continue the treatment for some little time, not more than one-fiftieth of a grain twice a day was employed. Even in these doses the drug manifested its physiological or toxic effects to a slight degree. Many of the patients, soon after taking the drug, experienced a sensation of dryness and tickling in the throat, which, however, disappeared in an hour or two; the pupil frequently re-acted but sluggishly to light, and in some instances was slightly dilated; occasionally there was glimmering before the eyes.

In four instances the use of the drug had to be discontinued on account of profuse diarrhœas, which stopped when the atropine was suspended and recurred as soon as it was resumed. No other ill effects were ever observed from the treatment.—*Virchow's Archiv. — Allg. Med. Central. Zeitung.*

On the use of Hydrate of Chloral in Incontinence of Urine.

By DR. G. LEONARDI. Translated for the Kansas City Medical Journal,
by the Editor.

Led thereto by the favorable reports of William Thompson and Bradbury, the writer, some time ago, adopted the use of hydrate of chloral in the treatment of nocturnal incontinence of urine, of which he had a number of obstinate cases. The excellent results attained were made public in the *Hippocratico* of July, 1872. A number of new cases are now reported, confirming all that was formerly claimed for this treatment, and the following general principles are laid down.

1st. Chloral-hydrate so far exceeds in value all previous means used against this evil, as to stand alone in its power of controlling that spasmodic (krampfhaftes) action of the detrusor vesicæ which overcomes the contraction of the sphincter.

2d. The drug should be administered in but little water; the allowance of fluid at the evening meal should also be small, and this meal should be taken at least two hours before bed-time. This is especially important at the beginning of treatment.

3d. Incontinence of urine often reduces children in flesh and vigor and they cannot be built up until this habit is done away with.

4th. The beneficial effects of the remedy show themselves in the very first nights, and in the majority of cases treatment does not have to be continued more than five days.

5th. Incontinence of urine occurs sometimes as a hereditary evil, and the writer has treated the children of a man who himself, at the age of 45, occasionally suffered from the same trouble.

6th. The dose should be given at bed-time, two hours after eating; it should be prepared afresh every evening, shortly before taking, and not put up in quantity to last several days.

The dose given to children, of the age of 8 to 16, is six to twelve grains in one to two ounces of water.

Dr. Leonardi is evidently not one-sided in his views, as is proved by his narrating a case, reported by Dr. Cicognini in Cremona, in which the patient was cured by the use of quinine.

She was a lady twenty-six years of age, who suffered frequently from nocturnal incontinence of urine. Every sort of precaution and the greatest variety of medicines had all proved unavailing. Cicognini was of the opinion that the fault lay in atony of the muscular fibres of the sphincter vesicæ, and ordered three grains of sulphate of quinia and one-sixth of a gr. of carbonate of iron, to be taken at 2 o'clock, P. M., again at 5 and at 8. After the use of a little over four grammes of quinine in eight days, combined with cold water sponging to the spine, the urinary trouble disappeared for good.

It is therefore always of the highest importance for the physician to determine whether he is dealing with a case of cramp or with one of atony of the muscles of the bladder. In the first instance chloral is the sovereign remedy, in the latter, quinine and other tonics are indicated.

It should also always be the task of the enlightened physician not to regard, nor to permit others to regard this evil as merely the result of bad habit, but to recognize the physical conditions on which it depends, and, if possible, remove them by appropriate treatment.—*Raccoglitore Medico.*—*Allg. Med. Central Zeitung.*

Resuscitation from Death Caused by the Inhalation of Chloroform.

By M. SCHUPPERT, M. D.

The views of the cause of death by the inhalation of chloroform are manifold. Some writers assert, that death is occasioned from the blood being poisoned by the absorption of chloroform; others explain death by a direct action of the chloroform on the nervous system, whereby the irritation caused by the vapors of chloroform interrupt respiration, causing apnoea and a cessation of the action of the heart, by involving the lower branches of the vagus. Sudden death is further interpreted by the action of the anæsthetic on the pulmonary arteries, in producing their contraction; the right heart being over-filled with blood and unable to transmit the same into the pulmonary arteries, paralysis of the heart would ensue. Death is also considered to be the sequel of an overloading of the blood with carbonic acid.

The opinion that death is caused by paralysis of the heart (cardiac syncope) originated, according to Sanson, with Brown Séquard, being supported by Dociel, till Scheineissen proved that this view was untenable. Scheineissen showed that in animals the chloroform produced an alteration of the heart's action, after a division of the vagi. Even after a division of the spinal cord in the cervical region, and the sympathetic, the heart's action was enfeebled by chloroform. Scheineissen, therefore, comes to the conclusion, that chloroform has a special action upon the musculo-motor system of the heart. He advises to "dilute chloroform with equal parts absolute alcohol, to restrain its volatility and powerful action at any given moment and to deprive it of its danger as a direct cardiac depressant." The same result will be obtained by administering chloroform under a sufficient supply of atmospheric air. If greater security is obtained, as asserted, by mixing it with alcohol, this may be caused by the alcohol acting as a stimulant on the brain, which action induces with more propriety a dose of whisky before the administration of the anæsthetic. For my part, I am opposed

to all mixtures of chloroform, be it with alcohol or ether, and for the simple reason that these materials have a different boiling point, that of chloroform being 142° F., of ether 95° , of absolute alcohol 173° F. In a mixture of chloroform with ether, we will have to ascribe the effect more to the ether, and in an alcoholic mixture, to the chloroform. Besides the great difference in the physiological action of these materials, it is clear that the administration of a mixture of them, rests upon an innocent ignorance.

B. W. Richardson, to whom we are indebted in a great measure for our knowledge of different anæsthetics, assumes four different modes of death from chloroform, and according to these, four immediate causes. (I must refer the reader to the publication of his singular ideas in the *Medical Times*, England.) In his third mode of death, he says: "The heart and respiration will cease together, but before the heart ceases, it will give us the intimation that it is about to stop, by one important sign—it will give an intermittent stroke. This mode of death would very often happen, if in every operation it was necessary to carry the insensibility further. Fortunately this is not the case, for consciousness fails before the failure of the muscular power, and when there is unconsciousness we can proceed with the operation at once." It is *not* unconsciousness which in many operations induces us to cease the administration of chloroform, but just the failure of muscular power. As long as the latter has not given way, many operations, for instance, in the mouth, could not even be thought of. In operations which require much time for their execution, I have continued to administer chloroform even after muscular power had ceased to exist, without ever having met with an unlucky accident. "In all the four modes of death from chloroform," says Richardson, "we find disturbances in the pneumo-gastric and sympathetic as the real cause of death. Chloroform, when it kills, kills not necessarily by its action on the muscular structure of the heart, but by its influence on the nervous mechanism of the heart. In every case of death from chloroform the cause of death is excitation, either of the motor or of the controlling nervous mechanism of the heart." *Non sequitur!*

The question in the administration of chloroform, whether it should be given slowly or rapidly, Richardson decides in the following: "The rule, from experience, is not to induce slow narcosis, but having felt the way in the first or second minute of administration in the adult, to push quickly on to completion, in which method, if the body is not surcharged with chloroform, the danger is comparatively small." In the administration of chloroform, I am of the opinion of J. E. Ericksen: "▲ considerable amount of practice and experience are required to enable a man to give chloroform well. Some acquire the

necessary skill more easily than others, but no amount of care can make up for a certain amount of practice." However long we continue the administration of chloroform, we ought to be careful that a sufficient quantity of atmospheric air is mixed with it, and not to mind if thereby even half the chloroform should be wasted.

In reference to resuscitation, when life seems to have ceased under Chloroform, Richardson is of the opinion, that the only successful plan consists in "a careful, delicate but steady respiration, by a kind of double acting bellows" (of his own invention.) He says verbatim: "We know of one process which may succeed, and that if it do not succeed, we know of none other that can take its place. That process is prompt artificial respiration." Richardson does not think much of the use of the galvanic current, which some surgeons of late esteem so much, that they advise to keep an apparatus always on hand. Richardson, by his experiments on animals draws the conclusion, that with our present knowledge of the galvanic current, it would in the majority of cases more effectually promote death than restore life. "When used as it is commonly used, with the object of exciting prolonged contraction of the muscles," he says "it is positively mischievous. In letting the current through the heart, the heart flaps and stops the ventricular systole." By his artificial respiration, he believes, from his experimental data, that at least one in every three or four of the cases now ending fatally under chloroform, would be saved.

During a space of twenty-two years, after more than a thousand administrations of chloroform, on men of all ages, of the most different physical structure and in a great variety of pathological conditions, it has happened not more than three times in my practice, that the narcotised subject died to all appearances; that is, respiration had ceased, the heart had stopped beating and the tonus of the muscular fibre had become extinct. One of these cases was a woman of robust constitution, who was to be operated upon for a lipoma on her back. Death set in soon after the operation was begun. One ounce of chloroform had been used. The other case was a boy seven years of age, who had put a glass bead into one of his ears. Before the instrument for extraction had been introduced into the ear, my assistant, Dr. Schmittle, exclaimed, "the boy is dead." Respiration and the heart's action had both ceased at once. Not more than half an ounce of chloroform had been administered. The last case was that of a barber, twenty-two years old, who suffered from Strabismus, for which he was to be operated upon. The patient died during the operation, about two ounces of chloroform having been used. All these patients were free from any disease of the heart and with the exception of the named ailments, nothing of a pathological nature had

been observed upon them. The earliest of my cases happened in 1864, it was the boy with the glass bead in the ear. The other cases happened two or three years later, the Doctors Geutebruck, Loeber and others being present. The method I adopted for the resuscitation of the dead subjects, consisted in reversing the body. I either hung them up by the feet, or laid them over a bed or table, so that the greater part of the body with the head hung down. In that position artificial respiration was also tried. In the last of the mentioned cases five minutes had passed before we observed the first natural inhalation of air. All the cases recovered. Two of them, as I firmly believe, exclusively by the position in which they were placed, without the help of artificial respiration. These cases proved my opinion to be correct, that in cases of death from chloroform, the primary cause of the cessation of the heart and respiration rest in the anæmia of the brain. The idea of explaining death by the impregnation of the blood with carbonic acid, will not enter my head. By the position into which I brought the dead bodies, the blood could certainly not be changed in its composition, but the brain would thereby receive blood, impelled by its own weight to flow into it. That this blood, in order to revive the nervous centre, must be arterial, need not be argued. The weak attempts of artificial respiration in two of the cases, were equally incapable of changing the composition of the blood. If Richardson considers artificial respiration the only means of resuscitation he is mistaken, and if he in his attempts to revive the dead, succeeds only once out of three cases, his method is unquestionably inferior to the one mentioned, which I claim as my own, till the contrary has been proved.

In the *Wiener Medic. Wochenschrift*, Nro. 49, 1871, we find the following: "Dr. J. D. Brown (*British Medical Journal*), is of the opinion, that death from the inhalation of chloroform and other anæsthetics will always ensue from paralysis of the heart, caused by the blood being overcharged with carbonic acid. He is opposed to artificial respiration, pulling out of the tongue, etc., as being unsuccessful and a loss of time, but he recommends to lay the patient in such a manner, that the head becomes the lower part, in order to obtain the flowing of a remnant of arterial blood from the left heart to the brain." Brown thinks, and justly, that the heart could be induced to further action only through the brain. He mentions five cases where the pulse and respiration ceased under the narcosis and where all the cases came to life again by adopting my method. Though I do not agree with Brown in reference to the mode of death, from reasoning before mentioned, that death can only be explained by a paralysis of the heart from an overcharge of the blood with carbonic acid, a conception difficult to explain,

still I am glad to find in his cases and the result of the method applied, a support of my views. The critic of the *Wiener Med. Wochenschrift* cannot suppress his scepticism in saying, "The effect of the method of Brown does not sound very credible, but nevertheless it might be tried, since the remedies we possess in regard to the named incidents are not very numerous." Oui, Monsieur le Referent, "Le vrai n'est pas toujours le vraisemblable." The King of Siam, when once told by a Dutch traveler that in Holland at certain seasons of the year, water became so solid that an elephant might walk over it, took the traveler for a liar, though he had up to that time taken him for a man of veracity.

Supplementary to the different methods I have discussed, it may be of interest to mention the views of some other authors on the resuscitation of the dead from chloroform.

Onimus and Legros, in a lecture held before the Academy of Paris, advise the use of the galvanic current. They say, that in all cases where delay and a cessation of the beating of the heart and of respiration had taken place, without an alteration of the blood, the continuous current would deserve the palm of all remedies yet recommended. They introduce the negative pole of a Remack's battery of 20 elements, in the mouth, and the positive into the rectum, till respiration is properly restored. On the other side, these gentlemen cannot condemn too severely, inductive electricity, considering the same as the best means to bring to a perfect stand-still, a heart, which through the action of the anæsthetic, has already been enfeebled; effecting thereby that which it has been our endeavor to avoid. These gentlemen endorse the use of the galvanic current after experiments made on animals. It has of late been effectively tried on man, contrary to the opinion of the celebrated Richardson of anæsthetic fame.

Dr. Baillie of Calcutta asserts, that no remedy could be found on which he might rely so much for resuscitating a narcotised person from syncope and to revive respiration, than by introducing a lump of ice into the rectum.

There is the good in all these different "highly recommended" methods that they can be employed at the same time, even with an icicle in posterioribus, without interfering with each other, if the operator should not be satisfied with the simple procedure proposed by me.—*N. O. Med. and Surg. Journal.*

The Treatment of Acute Articular Rheumatism, in Bellevue Hospital, New York.

The alkaline treatment is the one most generally adopted in the medical wards. A prescription which has found great favor is as follows:

R Sodæ bicarb., ʒjss;
 Potass. acetat., ʒss;
 Liq. ammon. acetat., fʒiij;
 Aquæ, q. s. ad Oj. M.

R Acid. citric., ʒij;
 Aquæ, Oj. M.

ʒij of each every 3 or 4 hours.

This forms an agreeable effervescing mixture, rendering the urine alkaline very quickly. The frequency with which it is given depends upon the degree of alkalinity obtained as tested morning and evening.

On another division an effervescing draught is made without the addition of the salts of potassa. As a local application, tincture of iodine is sometimes employed. By some the painting is limited to the integument immediately over the joint; by others, the integument corresponding to the blood-supply of the joint, a broad band above and below the joint answering this purpose very well.

Usually, however, cotton dusted with potassæ nitrat. and covered by oiled muslin is applied to the joints, affording marked relief. An opiate is given at night:

R Sol. morph. sulph. (Magendie.), M.—xxx;
 Tr. belladonnæ, M.—xvj;
 Aq. fœniculi, ʒij. M.

Sig. ʒj pro re nata.

If a friction-murmur develop in the pericardium or pleura, an attempt is made to arrest inflammatory process by vesication, collodion cum cantharide being used for this purpose. If, however, this fails, fomentations are applied to the affected side. Spongio-piline wrung out in hot water and covered with oil silk is generally used. A young girl developed acute pleuritis, left side, and pericarditis, in the course of an attack of rheumatic fever. Spongio-piline applications to the side, changed every two hours, relieved wonderfully the intense lancinating pain she experienced, and appeared to hasten the absorption of the effused fluid. Alkalies were not used in this case. Tr. aconiti rad., M.—j q. 1 h., was given, modifying the amount of febrile disturbance. The patient rapidly convalesced.

In subacute rheumatism, iron, quinine, and cod-liver oil are given internally, with nutritious diet. Occasional revulsives, as tincture of iodine, are applied, as in the acute disease.

In chronic rheumatism, in addition to tonics, a large number of cases have been treated by painting the joint with hydrargyri et morphis oleatis, most of them receiving considerable benefit from its use, especially in the alleviation of pain.—*Phil. Me. Times.*

Note on a Solution of Iodoform.

By LOUIS ELSBERG, M. D.,

Professor of Laryngology and Diseases of the Throat in the University of New York

A great objection to the employment of iodoform ($C^2 HI^3$) in substance is its bad odor, which is very penetrating and persistent; furthermore, there has not hitherto been in use any effective solution for topical applications in cases where ointments are inapplicable. It will doubtless be of interest to all who know the medical value of iodoform to learn that both these objections have been overcome. I have found an ethereal solution which deodorizes iodoform, the solution smelling of ether only, and at the same time constitutes an effective topical remedy for diseased mucous membranes, as of the throat, nose, mouth, larynx, vagina, rectum, etc. Rhighini used an ethereal solution for direct inhalation, and Dr. Sass used an ethereal solution and also a mixture of iodoform and sweet-almond oil by means of a spray-producer for inhalation. Dr. Gubler requested Messrs. Odin and Leymarie to ascertain the relative proportions in which iodoform is soluble in ether, and the most favorable conditions for its preparation; their experiments and conclusions are published in the *Pharmaceutical Journal*, August 2, 1873. The *London Doctor* for September 1, tells us that experiments were made with pure ether of 65° Baumé (specific gravity .724), and also with ether of 62° Baumé and 56° Baumé, the temperature being 13° C. Eight grains of tincture obtained with these ethers contained iodoform in solution, respectively, to the following extent:

Ether of 65° Baumé,	1.61	grammes.
“ 62° “	1.26	“
“ 56° “	1.13	“

The conclusions drawn by the authors from their experiments are,—

1. To employ iodoform in the crystalline state.
2. To make the solution in a *red* glass flask by simple agitation.
3. To use the following proportions:
Crystallized iodoform, 1 gramme.
Ether (60° Baumé), 4 grammes.

I had a solution prepared with Squibb's ether, and find that it possesses all the advantages of iodoform in powder for local applications, without its disadvantages. The smarting which the ether may be expected to produce upon the mucous membrane is momentary only, so that the application becomes really painless. Its beneficial effects surpass my expectations. *Phila. Med. Times*.

On the use of Quicksilver in Obstruction of the Bowels.

By DR. KIRSCHSTEIN. Translated for the Kansas City Med. Journal, by the Editor

The writer is induced to publish the following case, since seeing the late report of Dr. Metz, on the favorable action of Hydrargyrum depuratum in an obstinate case of intestinal obstruction.

The patient so treated by Dr. Kirschstein was a vigorous man, a fisherman by occupation, who had been subject to frequent attacks of gastric or intestinal colic, and who, on the present occasion, was suffering from closure of the intestinal canal, accompanied with tympanites, stercoraceous vomiting, etc. For five days all the means usually employed in such cases had been most vigorously and faithfully applied, but without success. The general condition of the patient was so bad that death was deemed inevitable and not likely to be delayed many hours.

It was now determined to give quicksilver. At 8 o'clock in the evening the patient, in the presence of the writer, took a large tablespoonful of the article, which dose was repeated in half an hour. The vomiting of fecal matter stopped at once, and the patient rested quietly, a result which it had not been possible previously to attain by any combination of means. Towards morning a movement of the bowels ensued, consisting chiefly of very hard, burnt-looking, fecal masses. All the unfavorable symptoms now subsided and the patient made a rapid recovery. No further cathartics were required after the first defecation, the bowels voluntarily acting several times a day, the character of the passages soon becoming quite natural.

Almost every day, for three weeks, the patient passed from the bowels larger or smaller globules of quicksilver, sometimes in connection with fecal matter and sometimes alone. No inconvenience, of any kind, attended the presence of the mineral in the intestinal canal. *Berliner Klin. Wochenschrift.*

Medical Electricity.

MESSERS EDITORS.—With your permission I desire to say a few words by way of reply to a communication on the subject of medical electricity of your correspondent, Rusticus, who seems equally anxious to get information himself and to impart it to others. Electricity is a science of vast depth and intricacy, and, more especially, that part of it which belongs to animal structures; in proof of which I will mention that even Carpenter, accustomed to those profound researches we admire in his Physiology, confesses himself unable to follow Du Bois-Reymond to the full extent of those investigations he has made on this subject. Difficult, indeed, would be the practice of medical electricity, and confined to the hands of very few, if one had

to go to the very bottom of inquiries like these, and might not venture, for example, to send a current from his battery through a nerve until he had first considered how this artificial influence would affect certain numberless electrical circles moving spontaneously within the infinitesimal molecules of the part itself, each pair of which becomes peripolar or depolar, as the nerve is in a state of action or at rest. I question, indeed, whether even those who amuse themselves with such minute speculations, bring them into actual practice, or are not rather guided by those external symptoms, and that ordinary experience, equally within the reach of my friend Rusticus and the great multitude of other practitioners.

Haud inexpertus loquor. When, some years since, my attention was first directed to electricity as a means of curing disease, the instruments themselves, I confess, presented a difficulty at the very outset; they were new to me, and, as a matter of consequence, not understood. I then had recourse to books, which began with abstract, half metaphysical discussion, extending far into the volume before any practical matter was approached. This mass of introductory matter I do not, by any means, mean to say was useless; I would only assert that it was too much labored and remote for a beginner, and that all the essential points are comparatively simple, and such as may be mastered without any unusual share of difficulty. Since this time, many good works on the subject have been written, as those of Althaus, Reynolds, Tibbits, Hamilton, Meyer, etc., and many admirable machines constructed, as those of Remak, Fromhold, Meyer, and the Galvano-Faradic Manufacturing Co. of New York; the latter are those I now use, as being at once simple and efficacious.

While making these remarks, I am not at all to be understood as if desirous of defending those itinerant and other electricians whom Rusticus so justly decries; on the contrary, such ignorant pretenders deserve no countenance, and, as in the instance of the lady with her "primary" and "secondary" who brought on hemiplegia, should be prosecuted and punished by law. All I would advance, is, that the practice of electricity is open to every physician; that the success with which he uses it will depend mainly on his knowledge of disease, and that there is no secret in this, any more than in any other department of medical science. While I would caution the public against the quack, local, itinerant, male and female, I would also remind the physician of his own ability, and encourage him to make use of electricity himself, if for no other motive than to take it out of the hands of the uneducated. It would, indeed, be a strange thing to see the country overrun with impostors who carry a "box" filled with mischief, like that of Pandora, while a medical man is obliged to look on, or send his patient to a specialist in Boston, New York, or elsewhere.

But I fear, gentlemen, that I have taken up too much of your valuable space, and must conclude somewhat abruptly by advising Rusticus, and others who desire to secure to their patients the benefits of electricity, to procure some such instructive books and some such effective instruments as those above spoken of, when, in a short time, with a little study and a little practice, they may thrust out the empiric, vindicate their own claims, and not trouble the specialist. I have the honor to be yours,
Boston Med. Surg. Journal. URBANUS.

Surgery.

Bloodless Amputations.

Esmarch's Method of Preventing Hemorrhage in Operations on the Extremities, by Prof. BILLROTH, Vienna.

On April 18, of this year, at the occasion of the Second Congress of German Surgeons, Esmarch made a very short communication on a "Means of Avoiding Loss of Blood in Operations on the Extremities." He declared that according to his experience it was possible to render and maintain a limb exsanguine by firmly enveloping it in elastic bandages applied from the extremity towards the body. These bands force back all the blood from the limb, and as they exercise at the same time an energetic constriction (the limb is put into a strong tube of rubber, as it were), they prevent the accession of fresh blood when the first band is removed.

Esmarch claims that it is not only in amputations that is saved, in this way, much of the blood that is lost by the tourniquet; it has great advantages in resections, extraction of sequestra, difficult extirpation of tumors, and other operations which may not be executed so rapidly as amputations. By the adoption of this method it is not necessary to use sponges to clear the field of operation: one may operate, dry, as upon the cadaver; this method has no injurious effect whatever upon recovery even though the circulation may have been interrupted in a whole extremity for a quarter of an hour.

Esmarch belongs to that class of German surgeons who imprint upon all their communications a special seal, upon which may be read "*bien observé, bien exposé*" [well observed, well expressed]. This little invisible device (so easy to follow, apparently, followed in truth, however, by how very few), this secret sign has always led me to imitate their works without delay, while, after the manner of those whose personal experience is enriched by a great number of observations, I turn a deaf ear to the therapeutic recommendations proposed, by the

hundreds, in the journals every day. I have thus upon the recommendation of Esmarch, applied his method during the course of the past session to a certain number of operations on the extremities, and though I have never doubted the exactitude of the observations of Esmarch after his discreet exposé of his method, I certainly had not anticipated a local anæmia so complete, profound, I had almost said frightful, as actually ensued. I am sure that the numerous echoes to the words of Esmarch will soon amount to a powerful choir. The most extraordinary number of surgeons of all nations of the world, who have visited my clinic, during the exposition, have received a no less profound impression of this new acquisition to science and its practical importance, than the hundreds of students in regular attendance on my course of clinical instruction. Though I am well assured that this method of Esmarch will attain the greatest publicity, and that it will blaze its way without my assistance, yet I regard it as a duty to hasten the adoption as much as possible by this report of a method so simple and so easy of execution by every physician, that it may be utilized by the numbers of patients who have to submit to amputations of their limbs on account of either accident or disease.

I have applied this local anæmia in all to fourteen cases; two of extensive necrosis of the tibia, three resections and osseous extirpations of the foot, two resections of the elbow, two amputations of Chopart, four amputations and one disarticulation of the thigh. In twelve cases success was complete, in two the results were incomplete for the following reasons: In one of these cases there was a non-extensible cicatrix from a burn on the posterior aspect of the knee, which held the knee in a flexed position: in consequence of which compression of the popliteal space could not be perfectly effected, so that the peripheral portions of the limb yielded a little blood. This might have been avoided by charpie or compresses applied to the angle of flexion beneath the elastic bandage. Other circumstances; it was so difficult to anæsthetise the patient that he was several times threatened with suffocation before entire relaxation of the muscles. The forcible stretching of the caoutchouc tube was not able to overcome the contraction of the muscles; the smaller arteries were well compressed, but the femoral should have been compressed separately below Poupart's ligament. Nevertheless even in this unfavorable case, the escape of blood was infinitely less than in ordinary cases. The patient recovered very rapidly, and is now in full strength.

The second case in which this circular compression did not receive its perfect application was one of disarticulation of the hip under special conditions. A year ago I was forced to make an amputation of the thigh in a man aged 45, an anæmic drinker,

affected with caries of the knee. The patient endured the operation well. Notwithstanding the fact that the amputation was made ten centimetres above the knee through the sound tissues, a periostitis developed and caries of the stump with fistulæ which were only cured by numerous incisions, cauterisations and scrapings. Six months later, I decided to remove a piece of the femur six centimetres in length. This time again, the section was made in a sound part of the bone, and yet the wound did not heal properly; new caries formed with fistulæ, extending very high. In the course of the six months following, the local condition grew worse, the anæmia persisting in spite of the increased embonpoint of the patient. I now decided to split open the soft parts down to the bone on the outside of the stump as far as the trochanter, to detach the periosteum which was but loosely adherent and strewed over with osteophytic plates, and then to exterminate the bony stump by opening the joint itself.

This operation was performed in the following way :

Having enveloped the stump with an elastic bandage, I applied the caoutchouc tube obliquely to the perineum from the anterior superior iliac spines backwards and downwards over the muscles of the buttocks, and from there over the perineum. Besides this, the aorta was compressed, a manœuvre exceedingly difficult of execution on account of his embonpoint. The elastic bandage diminished but did not completely prevent the effusion of blood.

For these cases, as difficult of control as exceptional of occurrence, cases which lie on the limits of probability, there yet remains to be found some means of perfecting the adaptation of this method.

Of the fourteen patients operated on under this artificial local anæmia, eleven recovered or are about to, which is the best proof that the manœuvre does not interfere with recovery. Among the deaths are to be counted the above case of femoral disarticulation, as the patient succumbed ten hours after the operation; and the cases of two women whose thighs were amputated, the one for gangrene of the leg incident to an extension of an ankylosis at an acute angle, followed, in effect, by a rupture of the vessels; the other on account of pulsatile osteo-sarcoma of the tibia.

On the occasion of the amputation in consequence of gangrene, Dr. Stepain, of Mannheim, who was present, inquired if there was not reason to fear that the previous compression of the limb by the bandage might force back septic elements from the mortified parts into the torrent of the circulation. There can be no doubt of the possibility of such an accident and prudence should be exercised as to the adoption of this procedure in analogous cases.

The fact of the suppression of the nervous circulation as a consequence of suppression of circulation of the blood (often noticed in practice) induced me to attempt one operation without chloroform, but I observed that this artificial anæmia does not induce anæsthesia; still, other attempts may be essayed in this direction.

Esmarch has still another merit. He has taken the pains to unite his compressive bandage and caoutchouc tube into one small apparatus, being convinced that the preparations of art facilitate greatly the application of new methods.*

Esmarch says nothing of history in this method. When I was assistant of Langenbeck in Berlin (1853-1854) the limb to be amputated was always enveloped in a wet roller to crowd back into the body and preserve the blood of the limb. The tourniquet was applied at the border of the bandage. This precaution was gradually neglected; the bandage was no longer applied and the tourniquet was substituted by the fingers of the assistants. The constriction of the extremities at a point above the place selected for amputation, as practiced in the middle ages is well known. The employment of caoutchouc to express and hold the blood back is new to all those who listened to Esmarch.

I read in a work by Vanzetti† which I have just received, that this method of envelopments and constriction with bandages of caoutchouc was published at Vicenza by Dr. Gandessa-Silvestri‡ and that since this time it has been employed with success at Padua.§ The ignorance of this method among the surgeons about Vicenza and Padua, an ignorance which I am able to confirm myself, proves that it was but little known and less applied. It is possible that in the course of time other nations may claim the right of priority in the application of caoutchouc in this way; the principle is old as are also the efforts at its execution in practice. In Germany, Esmarch possesses the incontestible right of priority. To him is due the merit, moreover, of having used his authority in the simplification, perfection and practical execution of this method of operating upon the wounded without loss of blood.—*Wiener Medizinische Wochenschrift*.—*The Clinic*.

* This apparatus may be found in the Exposition in Sect. I. of the pavilion "Remedies for Wounded," under the name "Apparatus for Military Physicians for Great Operations without Loss of Blood," by Prof. Esmarch. A colored plate explains its application. The apparatus may be purchased at Birkman's (Kiel) for 18 francs. 75 ct.

† *Intorno ad una memoria del professore Dittle sulla ligatura elastica in chirurgia*. Nota del professore Cito Vanzetti. *Gazzetta Medica Italiana Provincie Venete* anno xvi No. 23, Giugno, 1873.

‡ *Loc. cit.* anno xiv., p. 397.

§ *Cenni storici sulla R. Università di Padova con notizie sopra il suoi istituti scientifici*, p. 163.

THE KANSAS CITY

MEDICAL JOURNAL.

Editorial.

A NEW MEDICAL COLLEGE,—“SO CALLED.”

A document has reached us purporting to be the first annual announcement of a medical college in the little village of Independence, Kas. We are reminded, thereby, of another medical college on paper, which was started by two enterprising gentlemen in Topeka, a couple of years ago, and which succeeded only in securing their expulsion from the State Medical Society of Kansas. The present attempt at Independence, provokes merely a smile, and we should not have referred to it at all, but for the purpose of laying before our readers the racy comments of our worthy cotemporary, the *Leavenworth Medical Herald*. The *Herald* says :

We should be inclined to pronounce the whole concern mere FUDGE and MOONSHINE, were it not for the fact that in this State any persons who so desire can organize under the “General Incorporating Act,” with any title they choose to select, and without any regard to qualification. In all probability, the title of M. D. attached to the names of the members of the faculty, is in most cases not intended to mean *Medical Doctor* but *Mere Device*.

* * * * *

The absence of everything usually considered necessary for the success of a medical college, with the exception of mere names and self-imposed titles, is no reason why the faculty of the Kansas Medical College should not deliver a course of lectures. We hope they will, but with our present information we should not feel justified in advising any one to listen to them.

There is nothing in the constitution or statutes of the State which prohibits

a man from tooting his own horn, providing he does not annoy his neighbors thereby. Neither is it an indictable offense for a person by unreasonable presumption to make himself ridiculous in the estimation of his fellow citizens. We therefore have no words of condemnation for the faculty of the Kansas Medical College, but on the contrary, we think they are justified in their action by the following declaration, which may be found in the 15th chapter of the Book of Proverbs :

"Folly is joy to him that is destitute of wisdom."

Reviews.

CHEMISTRY, INORGANIC AND ORGANIC: with Experiments. By CHARLES LOUDON BLOXAM, Professor of Chemistry in King's College, London; in the Royal Military Academy, Woolwich; etc. With two hundred and ninety-five illustrations. From the second and revised English edition. 8vo., pp. 700. Philadelphia: H. C. Lea, 1873.

The text books of Chemistry in English, at the present day, are necessarily burdened by a change of nomenclature, by two thermometric degrees, and by two systems of weights. Here we have a text book adopting the new nomenclature, about as far as was adopted in the last revision of the U. S. P., while other formulas, based on new hypotheses, consequent upon the adoption of the atomic theory, are given; as, for instance, on page 75, sulphuric acid is given as SO^3 as well as the new formula H^2SO^4 .

The author says in his preface to the first edition: "In general, English weights and Fahrenheit thermometric degrees have been employed, as conveying more clearly to the beginner the absolute values expressed." However, in many cases both are given, and in such manner as would seem to do injustice to the new method, as on page 48: "One grain of hydrogen, at 60°F . and 30 inches Bar., measures 46.73 cubic inches. Expressed on the Continental System, one gramme (15.43 grs.) of hydrogen at 0°C . and 760 mm. Bar., measures 11.19 litres (one litre = 61.024 cubic inches = 1.76 pints)." In the way of definition, an acid is defined as "A compound body which evolves water by its action upon pure caustic potash or soda" (p. 58). "A base is a compound body which is capable of neutralizing an acid, either partly or entirely; a salt is a compound body containing an acid in combination with a base, or a metal in combination with a salt radical; a salt radical, or halogen, is a substance which forms an acid when combined with hydrogen." (p. 59). In the introduction, the elements are grouped according to their relative utility; next are considered the electrolysis

of water, electric relations of the elements, hydrogen, and then oxygen. Combustion is placed under oxygen. After the consideration of hydrogen and oxygen, water and its chemical relations to other substances is taken up. Under this head much of value concerning spring, well and river waters may be found. Many valuable articles on applied chemistry may be found under the more important elements, especially useful to manufacturers.

The work is very full, abundantly and ably illustrated, and constitutes, on the whole, probably the most valuable and at the same time practical text book on general Chemistry extant in our language.

J. S.

CLINICAL ELECTRO-THERAPEUTICS, MEDICAL AND SURGICAL. By ALLEN McLANE HAMILTON, M. D. New York, D. Appleton & Co., 1873; pp. 184.

Works on electricity are now the rage—and of late have multiplied greatly. Russel Reynold's Lectures, Tibbit's Handbook, and Hamilton's Clinical Electro-Therapeutics, have followed each other in rapid succession, but unfortunately are all very superficial in their character. The medical journals also contain articles on the same subject and of the same character with the others. M. Cyon has also published a work on this subject, but being in French it is beyond the reach of many practitioners who would probably be interested in this subject. A translation of this work would be a desideratum. Hamilton's work is probably equal to any of its class. Too many of his cases are, however, quoted from other authors, and in his description of the "induction apparatus," he has omitted all mention of the secondary coil by means of which the "induction" current is produced; his apparatus as described, would give the interrupted "primary," not "induction" current.

The work bears evidence of being too hastily written. The principles of the application of electricity to disease are very briefly noticed; unnecessary space is devoted to the instruments employed, unless the subject were treated fully; the different opinions of other authors are not considered; and the results are too frequently not those of the author's own experience. We look for better things from the "Physician in charge of the New York State Hospital for Diseases of the Nervous system" considering his opportunities, and hope to see a future edition "revised and corrected," in which these faults and omissions will be amended.

J. L. T.

HANDBOOK OF PHYSIOLOGY. By WM. SENHOUSE KIRKES, M. D. Edited by W. Morrant Baker, F. R. C. S., Lecturer on Phys. and Asst. Surg. to St. Bartholomews Hospital, etc., with 248 illustrations. A new American from the eighth enlarged English edition. 12mo. pp. 486. Price \$2.25. Philadelphia, Henry C. Lea, 1873.

This work may be heartily endorsed as giving the student or practitioner a thorough and practical introduction to the study

of physiology. Of course, it is not an exhaustive treatise on the subject, neither for that matter, are some of its larger and many-volumed rivals.

The book, as it now stands, is more Dr. Baker's than Kirke's Physiology. As such it has been brought quite fully up to the times and may be safely relied on. No time is wasted in burying defunct theories, nor are all the speculations of the present day noticed, but only that is taught which is pretty well established and generally accepted.

The illustrations are uncommonly full and good, more so than in any one text-book on physiology within our knowledge. The editor has borrowed freely from the well-known works of Quain, Sharpey, Kölliker, Kiernan and others, besides introducing a number of valuable plates of his own, making an aggregate of pictorial illustration, in itself worth the price of the volume.

As one becomes acquainted with Kirke's Hand-book, (which is no longer Kirke's and is more than a hand-book), he loses his surprise at the fact of its having reached its eighth edition in England. It is a book that will always, and justly, be popular wherever it is known. S.

LECTURES ON DISEASES AND INJURIES OF THE EAR : delivered at St. George's Hospital. By W. B. DALBY, F. R. C. S.; M. P., Cantab. Aural Surgeon to the Hospital. 12mo pp. 228 Philadelphia: Lindsay and Blakiston. 1873.

We are informed, in the preface, that an abstract of these lectures appeared in the *Lancet* in 1872. "In re-publishing them an attempt has been made to describe as shortly and clearly as possible the pathology and symptoms of diseases of the ear, and in directing attention to the treatment of these affections, to place before the reader the general results to be expected from remedial measures."

The lectures are reported, no doubt, as given, in an easy, off hand way, illustrated by cases present in the out-door department of the Hospital at the time. They are very pleasant, easy reading, and good as far as they go; but do not constitute anything like an exhaustive treatise on diseases of the ear. They contain nothing new, and the book would prove of little value to any one already possessed of ampler works on this subject. To such practitioners as have no works on the ear, and who, desirous of doing some measure of justice to the ear-cases that fall into their hands, are willing to supply themselves with the necessary apparatus for the inspection and treatment of this organ. Dalby's little book will prove of interest and value, and perhaps give them all the information on the subject that they can utilize. S.

THE STUDENT'S GUIDE TO MEDICAL DIAGNOSIS. BY SAMUEL FENWICK, M. D., F. R. C. P., Asst. Physician to the London Hospital. From the 3rd revised and enlarged English edition. With 84 illustrations on wood. 12mo. pp. 328. Philadelphia: Henry C. Lea. 1873.

The fact of Dr. Fenwick's book having reached its third edition in England during the space of a little over three years, may be considered by some as sufficient endorsement of the work. Such testimony, however, is of very little value unless one knows, at the same time, how the demand for works covering this ground is supplied in the English book market. In fact, the supply would seem to be very poor, and this poverty undoubtedly accounts for the temporary success of the work in question. Dr. Barclay's well-known treatise on medical diagnosis ranks deservedly high, presenting a profound and well-matured study of the origin and significance of the various symptoms met with at the bedside. It is a work highly esteemed on both sides of the Atlantic, but does not seem to be sufficiently popular or commonplace in its character to meet the demands of the student-world. In this connection allusion may, incidentally, be made to a more recent and most excellent little Introduction to the study of Clinical Medicine, by Dr. O. Sturges, also of London, which will be found noticed below.

Dr. Fenwick, in his introduction, speaks of the students who attend the out-patient department of the London Hospital, and for whom his book is especially intended, as being "supposed not to have yet acquired any professional knowledge except in anatomy and physiology." He therefore, we suppose, tries to give them all the knowledge they need at the bedside, in a nutshell, and he succeeds about as well as one would expect him to. The scope of the work is greatly restricted, by his own confession, from the fact of his not attempting to deal with exceptional, but only with well-marked, typical cases of disease. How few such occur in practice every practitioner knows, and these few the average American student, at least, will correctly diagnose without the help of anybody's "Guide."

Throughout the book there is a strained attempt at simplicity, which results in grouping together a few of the prominent symptoms, or rather, physical signs of a disease in meagrest outline, and then clapping a name onto the skeleton. For instance, on page 90, we read: "The acute diseases of the lungs are pneumonia, pleurisy, pneumothorax, bronchitis, hooping-cough, acute phthisis. In all these complaints direct your attention first to the lower and back parts of the chest below the scapulæ. Begin with percussion.

A. You find distinct dullness on percussion. The disease is either pneumonia, pleurisy with effusion or hydropneumothorax.

a. You hear tubular breathing alone, or accompanied by a fine crackling or a bubbling sound with the inspiration; there is

increased resonance of the voice and increased vocal fremitus. The disease is *pneumonia*.

b. You find a diminution or absence of respiratory murmur, of vocal resonance and of vibration.

The disease is *pleurisy with effusion*."

And so on, throughout.

This sort of thing may be of some value to a rusty practitioner (who, nevertheless has, at some time, learned to contemplate the entire picture presented by his patient and to draw his conclusions therefrom), in enabling him to brush up his physical diagnosis. But it certainly appears to be a most superficial and undesirable way of "guiding" students. S.

AN INTRODUCTION TO THE STUDY OF CLINICAL MEDICINE: being a Guide to the Investigation of Disease. For the use of Students. By OCTAVIUS STURGES, M. D., Cantab., Asst. Physician to the Westminster Hospital, etc., etc. 12mo. pp. 127. Price \$1.25. Philadelphia: Henry C. Lea. 1873.

Within the narrow limits of this unpretending little volume will be found more good sense, more valuable suggestions, more sound, practical teaching than in most works of many times its size.

The author "assumes no more than to point out to students a method—not the only, or necessarily the best, method—of interrogating patients at the bedside." That some systematic method of examining patients is indispensable if we are to make exhaustive diagnoses, no one will deny, and that the lack of any such method is a common fault, not only with medical students but with practitioners, is notorious. When, therefore, we have a simple, thorough, common-sense plan laid before us, as in Dr. Sturges' little work, we accept it gladly, not, of necessity, as a formula to be slavishly copied, but as a model to be followed in its essentials, with such minor modifications as circumstances or individual preferences may dictate. Sturges' "Introduction to the study of Clinical Medicine" has this great merit, that it does introduce the student to something new, that it is not merely an attempt to do better what has often been done before. It gives no scanty rehash of the theory and practice of medicine, nor does it attempt to teach pathology and therapeutics "in six easy lessons," but merely proposes to enumerate in convenient form the particulars which should be ascertained in every clinical examination, taking it for granted that the student knows, or will learn from others, the correct interpretation of these facts. It is an attempt to train the student to the exercise of his own judgment, not to burden his memory with tables and formulas which must often leave him in the lurch or lead him astray.

The following remark is only one amongst many that we

would fain transcribe: "In the present day students are, perhaps, too ready to believe that skill in the use of implements, and familiarity with the many modern aids to diagnosis, may take the place of that careful scrutiny of the patient which was necessary in darker times." To refute this error, is, in part, the mission of Sturges' little book.

In conclusion we would earnestly recommend the purchase and study of the volume to every student and practitioner of medicine whose eye may fall upon this notice. s.

Any of the above books may be ordered through Messrs. Matt. Foster & Co., of this city.

Miscellany.

PROF. W. C. EVANS, of the Kansas City College of Physicians and Surgeons, has removed from this city, returning to his former home, near Erie, Pa.

Dr. Evans left behind him many friends, and takes with him their best wishes. The Faculty of the College passed a series of very complimentary resolutions, on the occasion of Dr. Evans' departure, expressive of their high regard for their late colleague and their regret at his departure.

MEDICAL BOOKS.—A larger number of medical books were sold in this city during the past year, than at any previous time. This speaks well for the doctors in town and country, as well as for the enterprise of the firm of MATT FOSTER & Co., the only dealers in medical works west of St. Louis.

They are prepared to forward by mail or express any American publication, on receipt of the catalogue price, and extend a cordial invitation to physicians in and out of town to drop in and examine the collection of medical works on their shelves.

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in the country, will furnish their descriptive catalogue free on application. Their PHYSICIANS' VISITING LIST is the most convenient and practical thing of the kind in the market, and may be had by forwarding \$1 to the publishers.

A FRESH SUPPLY OF SURGICAL INSTRUMENTS, from the well-known house of Geo. Tiemann & Co., has just been received by Messrs. Breunert & Wocher, Druggists, corner of Fifth and Main streets. Physicians who are in need of instruments will do well to call early and have the first choice.

CITY HOSPITAL.—The new, detached, Woman's Ward to this institution is completed and occupied. This is a great improvement upon the former arrangements.

Dr. A. M. Crow, the City Physician, is giving general satisfaction by the effective and at the same time economical management of his department. The Hospital was never in better condition than now. This is largely owing to the intelligent and efficient services of Dr. Joseph Sharp, nominally Hospital Steward, actually Resident Physician.

DR. T. J. EATON has become an equal partner in the drug house of Eaton & Greene, successors to G. T. Lynn. The doctor's recognized ability and accommodating spirit will undoubtedly contribute towards enlarging the business of this always popular establishment.

A. M. LESLIE & Co., Surgical Instrument Makers, etc., St. Louis, Mo. This is an institution that ought to be, and is being, more and more extensively patronized by the medical men of this section of country. It is a great convenience to be able to send one's order to St. Louis for any surgical instrument or apparatus, old or new, and receive the same promptly by mail or express within two or three days. From repeated experience during the past year the writer can testify to the expeditious and satisfactory manner in which this firm fills their orders.

CAUSE OF KLEPTOMANIA.—The most amusing, if not scientific explanation yet offered of the cause of this evil, is that it results

from the fact of the individual having been vaccinated with the virus from a hooking cow. Let the advocates of bovine virus look well to the moral nature of their cattle!

MEDICAL VICTIMS OF YELLOW FEVER AT MEMPHIS.—At a meeting of the medical profession, held at Memphis, on Nov. 7th, resolutions were adopted testifying to the high social and professional character of the following named gentlemen, who contracted the fever and died, as the result of their devotion to their professional duties during the late epidemic: Drs. Crone, Minor, Kennon, Hatch, Blount, Freeman and Williams.

CHILBLAINS.—Mr. Fergus recommends sulphurous acid in this affection. It should be applied with a camel's hair brush, or by means of a spray-producer. One application of this usually effects a cure. The acid should be used pure. A good wash for hands or feet affected with chilblains is sulphurous acid, three parts; glycerine, one part; and water one part. The acid will be found particularly useful in the irritating, tormenting stages of chilblains.—*Druggist's Circular*.

THE AGE OF EGGS.—*The Lancet* quotes the following from a French authority as a mode of ascertaining the age and consequent freshness of an egg: Dissolve one hundred and twenty grammes of common salt in a litre of water. If the egg is one day old, it will sink to the bottom; if it was laid the day before, it will not reach the bottom; if three days old, it floats; and if more than five, it comes to the surface, and the shell projects more and more according to staleness.—*New York Medical Record*.

BOOKS AND OTHER PUBLICATIONS RECEIVED.

CHEMISTRY, GENERAL, MEDICAL and PHARMACEUTICAL, by John Attfield, Ph. D., F. C. S., etc., etc. Fifth edition, revised from the fourth English edition. Philadelphia, H. C. Lea. 1873.

A MANUAL OF MIDWIFERY, including the Pathology of Pregnancy and the Puerperal state. By Dr. Karl Schroeder, Erlangen. Translated by Chas. H. Carter, B. A., M. D., etc., etc. New York: D. Appleton & Co. 1873.

CHEMISTRY, INORGANIC and ORGANIC; with Experiments, by Chas. Loudon Bloxom. With 295 Illustrations. Philadelphia: H. C. Lea. 1873.

A HANDBOOK OF THE THEORY and PRACTICE OF MEDICINE. By Frederick I. Roberts, M. D., etc., etc. Philadelphia: Lindsay & Blakiston. 1873.

THE STUDENTS' GUIDE TO MEDICAL DIAGNOSIS. By Samuel Fenwick, M. D. From the third revised English edition. With 84 Illustrations on wood. Philadelphia: H. C. Lea. 1873.

AN INTRODUCTION TO THE STUDY OF CLINICAL MEDICINE. Being a Guide to the investigation of disease. For the use of students. By O. Sturges, M. D. Philadelphia: H. C. Lea. 1873.

HANDBOOK FOR THE PHYSIOLOGICAL LABORATORY. Edited by J. Burdon-Sanderson. In 2 vols., with 133 Plates, containing 353 Illustrations. Philadelphia: Lindsay & Blakiston. 1873.

HANDBOOK OF PHYSIOLOGY. By Wm. Senhouse Kirkes, M. D. Edited by W. Morant Baker, F. R. C. S. With 248 Illustrations. Philadelphia: H. C. Lea. 1873.

LECTURES ON DISEASES AND INJURIES OF THE EAR. By W. B. Dalby, F. R. C. S. Philadelphia: Lindsay & Blakiston. 1873.

AN INTRODUCTION TO PRACTICAL CHEMISTRY. By J. E. Bowman, F. C. S. Edited by C. L. Bloxam. Sixth American from the sixth English edition. Philadelphia: H. C. Lea. 1873.

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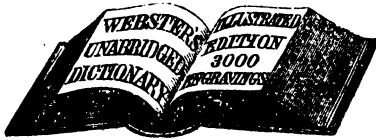
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SESSIONS OF 1873-1874.

THE COLLEGIATE YEAR in this Institution embraces a preliminary Autumnal Term, the Regular Winter Session, and a Summer Session.

THE PRELIMINARY AUTUMNAL TERM for 1873-1874 will commence on Wednesday, September 17th, 1873, and continue until the opening of the Regular Session. During this term, instruction, consisting of didactic lectures on special subjects and daily clinical lectures, will be given, as heretofore, by the entire Faculty. Students desiring to attend the Regular Session are strongly recommended to attend the Preliminary Term, but attendance during the latter is not required. *During the Preliminary Term, clinical and didactic lectures will be given in precisely the same number and order as in the Regular Session.*

THE REGULAR SESSION will commence on Wednesday, October 1st, 1873, and end about the 1st of March, 1874.

FACULTY.

ISAAC E. TAYLOR, M. D.,

Emeritus Professor of Obstetrics and Diseases of Women and Children, and President of the College

JAMES R. WOOD, M. D., LL. D.,

Emeritus Prof. of Surgery

FORDYCE BARKER, M. D.

Professor of Clinical Midwifery and Diseases of Women.

AUSTIN FLINT, M. D.,

Professor of the Principles and Practice of Medicine and Clinical Medicine.

FRANK H. HAMILTON, M. D., LL. D.,

Professor of Practice of Surgery with Operations and Clinical Surgery.

LEWIS A. SAYRE, M. D.,

Professor of Orthopedic Surgery and Clinical Surgery.

ALEXANDER MOTT, M. D.,

Professor of Clinical and Operative Surgery.

W. H. VAN BUREN, M. D.,

Prof. of Principles of Surgery with Diseases of the Genito-Urinary System and Clinical Surgery.

E. OGDEN DOREMUS, M. D.,

Professor of Chemistry and Toxicology.

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HENRY D. NOYES, M. D.,

Surgeon to the Charity Hospital, etc.;

Professor of Ophthalmology and Otolary.

EDWARD L. KEYES, M. D.,

Surgeon to the Charity Hospital, etc.;

Professor of Dermatology, and Assistant to the Chair of Principles of Surgery, etc.

EDWARD G. JANEWAY, M. D.,

Physician to the Bellevue Hospital, etc.; Professor of Pathological and Practical Anatomy.

(Demonstrator of Anatomy.)

A distinctive feature of the method of instruction in this College is the union of clinical and didactic teaching. All the lectures are given within the Hospital grounds. During the Regular Winter Session, in addition to four didactic lectures on every week-day, except Saturday, two or three hours are daily allotted to clinical instruction. The union of clinical and didactic teaching will also be carried out in the Summer Session, nearly all of the teachers in this Faculty being physicians and surgeons to the Bellevue Hospital and the great Charity Hospital on Blackwell's Island.

The Summer Session will consist chiefly of Recitations from Text-books. This term continues from March 17th to July 1st. During this Session, there will be daily recitations in all the departments, held by a corps of examiners appointed by the regular Faculty. Regular clinics will also be held.

FEES FOR THE REGULAR SESSION.

Fees for Tickets to all the Lectures during the preliminary and Regular Terms, including Clinical Lectures.....	\$140 00
Matriculation Fee.....	5 00
Demonstrator's Ticket (including material for dissection).....	10 00
Graduation Fee.....	30 00

FEES FOR THE SUMMER SESSION.

Matriculation Ticket good for the following Winter.....	\$ 5 00
Recitations and Clinics.....	50 00
Dissection Ticket good for the following Winter.....	10 00

For the Annual Catalog and Syllabus, giving regulations for graduation and other information, address the Secretary of the College Prof. ALBERT FAIR, Jr., Bellevue Hospital Medical College.

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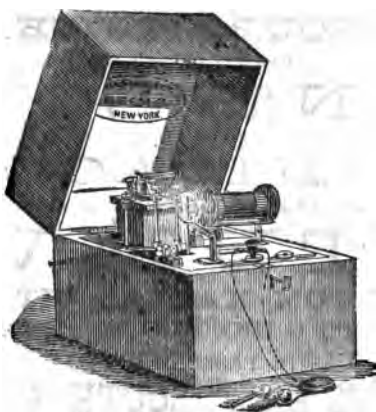
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